ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 60 and 63

[EPA-HQ-OAR-2021-0619; FRL-8602-01-OAR]

RIN 2060-AV43

Review of Standards of Performance for Lead Acid Battery Manufacturing Plants and National Emission Standards for Hazardous Air Pollutants for Lead Acid Battery Manufacturing Area Sources Technology Review

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: This proposal presents the results of the Environmental Protection Agency's (EPA's) review of the New Source Performance Standards (NSPS) for Lead Acid Battery Manufacturing Plants and the technology review (TR) for the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Lead Acid Battery Manufacturing Area Sources as required under the Clean Air Act (CAA). The EPA is proposing revised lead (Pb) emission limits for grid casting, paste mixing, and lead reclamation operations for both the area source NESHAP (for new and existing sources) and under a new NSPS subpart (for lead acid battery facilities that begin construction, reconstruction, or modification after **[INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER]**). In addition, the EPA is proposing the following amendments for both the area source NESHAP (for new and existing sources) and under a new NSPS subpart (for lead acid battery facilities that begin construction, reconstruction or modification after **[INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER]**): performance testing once every 5 years to demonstrate compliance; work practices to minimize emissions of fugitive lead dust; increased inspection frequency of fabric filters; bag leak detection systems for facilities above a certain size; clarification of activities that are considered to be lead reclamation activities; electronic reporting of performance test results and semiannual

compliance reports; and the removal of exemptions for periods of start-up, shut down, and malfunctions. The EPA is also proposing a revision to the applicability provisions in the area source NESHAP such that facilities which make lead-bearing battery parts or process input material, including but not limited to grid casting facilities and lead oxide manufacturing facilities, will be subject to the area source NESHAP.

DATES: Comments must be received on or before **[INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**. Under the Paperwork Reduction Act (PRA), comments on the information collection provisions are best assured of consideration if the Office of Management and Budget (OMB) receives a copy of your comments on or before **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

Public hearing: If anyone contacts us requesting a public hearing on or before **[INSERT DATE 5 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**, we will hold a virtual public hearing. See **SUPPLEMENTARY INFORMATION** for information on requesting and registering for a public hearing.

ADDRESSES: You may send comments, identified by Docket ID No. EPA-HQ-OAR-2021-0619, by any of the following methods:

- Federal eRulemaking Portal: *https://www.regulations.gov/* (our preferred method). Follow the online instructions for submitting comments.
- Email: *a-and-r-docket@epa.gov*. Include Docket ID No. EPA-HQ-OAR-2021-0619 in the subject line of the message.
- Fax: (202) 566-9744. Attention Docket ID No. EPA-HQ-OAR-2021-0619.
- Mail: U.S. Environmental Protection Agency, EPA Docket Center, Docket ID No. EPA-HQ-OAR-2021-0619, Mail Code 28221T, 1200 Pennsylvania Avenue, NW, Washington, DC 20460.

- Hand/Courier Delivery: EPA Docket Center, WJC West Building, Room 3334, 1301 Constitution Avenue, NW, Washington, DC 20004. The Docket Center's hours of operation are 8:30 a.m. – 4:30 p.m., Monday – Friday (except federal holidays).

Instructions: All submissions received must include the Docket ID No. for this rulemaking. Comments received may be posted without change to *https://www.regulations.gov/*, including any personal information provided. For detailed instructions on sending comments and additional information on the rulemaking process, see the **SUPPLEMENTARY INFORMATION** section of this document. Out of an abundance of caution for members of the public and our staff, the EPA Docket Center and Reading Room are open to the public by appointment only to reduce the risk of transmitting COVID-19. Our Docket Center staff also continues to provide remote customer service via email, phone, and webform. Hand deliveries and couriers may be received by scheduled appointment only. For further information on EPA Docket Center services and the current status, please visit us online at *https://www.epa.gov/dockets*.

FOR FURTHER INFORMATION CONTACT: For questions about this proposed action, contact Amanda Hansen, Sector Policies and Programs Division (D243-02), Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711; telephone number: (919) 541-3165; fax number: (919) 541-4991; and email address: *hansen.amanda@epa.gov*.

SUPPLEMENTARY INFORMATION:

Participation in virtual public hearing. Please note that because of current Centers for Disease Control and Prevention (CDC) recommendations, as well as state and local orders for social distancing to limit the spread of COVID-19, the EPA cannot hold in-person public meetings at this time.

To request a virtual public hearing, contact the public hearing team at (888) 372-8699 or by email at *SPPDpublichearing@epa.gov*. If requested, the virtual hearing will be held on

[INSERT DATE 15 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]. The hearing will convene at 10:00 a.m. Eastern Time (ET) and will conclude at 5:00 p.m. ET. The EPA may close a session 15 minutes after the last pre-registered speaker has testified if there are no additional speakers. The EPA will announce further details at *https://www.epa.gov/stationary-sources-air-pollution/lead-acid-battery-manufacturing-area-sources-national-emission*.

If a public hearing is requested, the EPA will begin pre-registering speakers for the hearing no later than 1 business day after a request has been received. To register to speak at the virtual hearing, please use the online registration form available at *https://www.epa.gov/stationary-sources-air-pollution/lead-acid-battery-manufacturing-area-sources-national-emission* or contact the public hearing team at (888) 372-8699 or by email at *SPPDpublichearing@epa.gov*. The last day to pre-register to speak at the hearing will be **[INSERT DATE 12 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**. Prior to the hearing, the EPA will post a general agenda that will list pre-registered speakers in approximate order at: *https://www.epa.gov/stationary-sources-air-pollution/lead-acid-battery-manufacturing-area-sources-national-emission*.

The EPA will make every effort to follow the schedule as closely as possible on the day of the hearing; however, please plan for the hearings to run either ahead of schedule or behind schedule.

Each commenter will have 5 minutes to provide oral testimony. The EPA encourages commenters to provide the EPA with a copy of their oral testimony electronically (via email) by emailing it to hansen.amanda@epa.gov. The EPA also recommends submitting the text of your oral testimony as written comments to the rulemaking docket.

The EPA may ask clarifying questions during the oral presentations but will not respond to the presentations at that time. Written statements and supporting information submitted during

the comment period will be considered with the same weight as oral testimony and supporting information presented at the public hearing.

Please note that any updates made to any aspect of the hearing will be posted online at *https://www.epa.gov/stationary-sources-air-pollution/lead-acid-battery-manufacturing-area-sources-national-emission*. While the EPA expects the hearing to go forward as set forth above, please monitor our website or contact the public hearing team at (888) 372-8699 or by email at *SPPDpublichearing@epa.gov* to determine if there are any updates. The EPA does not intend to publish a document in the *Federal Register* announcing updates.

If you require the services of a translator or special accommodation such as audio description, please pre-register for the hearing with the public hearing team and describe your needs by **[INSERT DATE 7 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**. The EPA may not be able to arrange accommodations without advanced notice.

Docket. The EPA has established a docket for this rulemaking under Docket ID No. EPA-HQ-OAR-2021-0619. All documents in the docket are listed in *https://www.regulations.gov/*. Although listed, some information is not publicly available, *e.g.*, Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy. With the exception of such material, publicly available docket materials are available electronically in Regulations.gov.

Instructions. Direct your comments to Docket ID No. EPA-HQ-OAR-2021-0619. The EPA's policy is that all comments received will be included in the public docket without change and may be made available online at *https://www.regulations.gov/*, including any personal information provided, unless the comment includes information claimed to be CBI or other information whose disclosure is restricted by statute. Do not submit electronically to *https://www.regulations.gov/* any information that you consider to be CBI or other information

whose disclosure is restricted by statute. This type of information should be submitted as discussed below.

The EPA may publish any comment received to its public docket. Multimedia submissions (audio, video, etc.) must be accompanied by a written comment. The written comment is considered the official comment and should include discussion of all points you wish to make. The EPA will generally not consider comments or comment contents located outside of the primary submission (*i.e.*, on the Web, cloud, or other file sharing system). For additional submission methods, the full EPA public comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit *https://www.epa.gov/dockets/commenting-epa-dockets*.

The *https://www.regulations.gov/* website allows you to submit your comment anonymously, which means the EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an email comment directly to the EPA without going through *https://www.regulations.gov/*, your email address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, the EPA recommends that you include your name and other contact information in the body of your comment and with any digital storage media you submit. If the EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, the EPA may not be able to consider your comment. Electronic files should not include special characters or any form of encryption and be free of any defects or viruses. For additional information about the EPA's public docket, visit the EPA Docket Center homepage at *https://www.epa.gov/dockets*.

Due to public health concerns related to COVID-19, the Docket Center and Reading Room are open to the public by appointment only. Our Docket Center staff also continues to provide remote customer service via email, phone, and webform. Hand deliveries or couriers will

be received by scheduled appointment only. For further information and updates on EPA Docket Center services, please visit us online at *https://www.epa.gov/dockets*.

The EPA continues to carefully and continuously monitor information from the CDC, local area health departments, and our federal partners so that we can respond rapidly as conditions change regarding COVID-19.

Submitting CBI. Do not submit information containing CBI to the EPA through *https://www.regulations.gov/*. Clearly mark the part or all of the information that you claim to be CBI. For CBI information on any digital storage media that you mail to the EPA, note the docket ID, mark the outside of the digital storage media as CBI, and identify electronically within the digital storage media the specific information that is claimed as CBI. In addition to one complete version of the comments that includes information claimed as CBI, you must submit a copy of the comments that does not contain the information claimed as CBI directly to the public docket through the procedures outlined in *Instructions* above. If you submit any digital storage media that does not contain CBI, mark the outside of the digital storage media clearly that it does not contain CBI and note the docket ID. Information not marked as CBI will be included in the public docket and the EPA's electronic public docket without prior notice. Information marked as CBI will not be disclosed except in accordance with procedures set forth in 40 Code of Federal Regulations (CFR) part 2.

Our preferred method to receive CBI is for it to be transmitted electronically using email attachments, File Transfer Protocol (FTP), or other online file sharing services (e.g., Dropbox, OneDrive, Google Drive). Electronic submissions must be transmitted directly to the OAQPS CBI Office at the email address oaqpscbi@epa.gov, and as described above, should include clear CBI markings and note the docket ID. If assistance is needed with submitting large electronic files that exceed the file size limit for email attachments, and if you do not have your own file sharing service, please email oaqpscbi@epa.gov to request a file transfer link. If sending CBI information through the postal service, please send it to the following address: OAQPS

Document Control Officer (C404-02), OAQPS, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711, Attention Docket ID No. EPA-HQ-OAR-2021-0619. The mailed CBI material should be double wrapped and clearly marked. Any CBI markings should not show through the outer envelope.

Preamble acronyms and abbreviations. Throughout this notice the use of "we," "us," or "our" is intended to refer to the EPA. We use multiple acronyms and terms in this preamble. While this list may not be exhaustive, to ease the reading of this preamble and for reference purposes, the EPA defines the following terms and acronyms here:

ANSI	American National Standards Institute
BACT	Best Available Control Technology
BSER	Best System of Emissions Reduction
CAA	Clean Air Act
CBI	Confidential Business Information
CFR	Code of Federal Regulations
ECHO	Enforcement and Compliance History Online
EIS	Emissions Inventory System
EPA	Environmental Protection Agency
ERT	Electronic Reporting Tool
FR	*Federal Register*
GACT	Generally Available Control Technology
gr/dscf	grains per dry standard cubic foot
HAP	hazardous air pollutant(s)
HEPA	high efficiency particulate air
LAER	Lowest Achievable Emission Rate
mg/dscm	milligrams per dry standard cubic meters
NAAQS	National Ambient Air Quality Standards
NAICS	North American Industry Classification System
NEI	National Emissions Inventory
NESHAP	National Emission Standards for Hazardous Air Pollutants
NSPS	New Source Performance Standards
NTTAA	National Technology Transfer and Advancement Act
OAQPS	Office of Air Quality Planning and Standards
OECA	Office of Enforcement and Compliance Assurance
OMB	Office of Management and Budget
Pb	lead
RACT	Reasonably Available Control Technology
RBLC	Reasonably Available Control Technology, Best Available Control Technology, and Lowest Achievable Emission Rate Clearinghouse

SBA	Small Business Administration
SIC	Standard Industrial Classification
SSM	startup, shutdown, and malfunction
tpy	tons per year
TR	technology review
TRI	Toxic Release Inventory
$\mu g/m^3$	microgram per cubic meter
VCS	voluntary consensus standards
VE	visible emissions

Organization of this document. The information in this preamble is organized as follows:

I. General Information

A. Does this action apply to me?

The source category that is the subject of this proposal is lead acid battery manufacturing regulated under CAA section 111 New Source Performance Standards and under CAA section 112 Generally Available Control Technology Standards (GACT). The North American Industry Classification System (NAICS) code for the lead acid battery manufacturing industry is 335911. This NAICS code provides a guide for readers regarding the entities that this proposed action is likely to affect. Federal, state, local, and tribal government entities would not be affected by this proposed action. As defined in the *Initial List of Categories of Sources Under Section 112(c)(1) of the Clean Air Act Amendments of 1990* (see 57 FR 31576, July 16, 1992) and *Documentation for Developing the Initial Source Category List, Final Report* (*see* EPA-450/3-91-030, July 1992), the Lead Acid Battery Manufacturing source category is any facility engaged in producing lead acid or lead acid storage batteries, including, but not limited to starting-lightning-ignition (SLI) batteries and industrial storage batteries. The category includes, but is not limited to, the following lead acid battery manufacturing steps: lead oxide production, grid casting, paste mixing, and three-process operation (plate stacking, burning, and assembly). The lead acid

battery manufacture source category was identified as a pollutant specific minor source category in the *Priorities for New Source Performance Standards Under the Clean Air Act Amendments of 1977* (see EPA-450/3-78-019, April 1978), and added to the priority list in the *Revised Prioritized List of Source Categories for NSPS Promulgation* (see EPA-450/3-79-023, March 1979).

B. Where can I get a copy of this document and other related information?

In addition to being available in the docket, an electronic copy of this action is available on the Internet. Following signature by the EPA Administrator, the EPA will post a copy of this proposed action at *https://www.epa.gov/stationary-sources-air-pollution/lead-acid-battery-manufacturing-new-source-performance-standards* and *https://www.epa.gov/stationary-sources-air-pollution/lead-acid-battery-manufacturing-area-sources-national-emission*. Following publication in the *Federal Register*, the EPA will post the *Federal Register* version of the proposal and key technical documents at these same websites.

The proposed changes to the CFR that would be necessary to incorporate the changes proposed in this action are presented in an attachment to the memoranda titled: *Proposed Regulation Edits for 40 CFR Part 63, Subpart PPPPPP: National Emission Standards for Lead Acid Battery Manufacturing Area Sources* and *Proposed New Subpart KKa for 40 CFR Part 60, Subpart KKa: Standards of Performance for Lead Acid Battery Manufacturing Plants*. These memoranda are available in the docket for this action (Docket ID No. EPA-HQ-OAR-2021-0619) and include a redline version of the regulation for the NESHAP and new proposed regulatory language for the new NSPS subpart. Following signature by the EPA Administrator, the EPA will also post a copy of the memorandum for the area source NESHAP and the attachments to *https://www.epa.gov/stationary-sources-air-pollution//lead-acid-battery-manufacturing-area-sources-national-emission*. Regarding the NSPS, a copy of the memorandum and the attachments for the proposed regulatory language for the new subpart KKa

will be posted to *https://www.epa.gov/stationary-sources-air-pollution/lead-acid-battery-manufacturing-new-source-performance-standards*.

II. Background

A. What is the statutory authority for this action?

1. NSPS Authority

The EPA's authority for this rule is CAA section 111, which governs the establishment of standards of performance for stationary sources. Section 111 of the CAA requires the EPA Administrator to list categories of stationary sources that in the Administrator's judgment cause or contribute significantly to air pollution that may reasonably be anticipated to endanger public health or welfare. 42 U.S.C. 7411(b)(1)(A). The EPA must then issue performance standards for new (and modified or reconstructed) sources in each source category. 42 U.S.C. 7411(b)(1)(B). These standards are referred to as new source performance standards or NSPS. The EPA has the authority to define the scope of the source categories, determine the pollutants for which standards should be developed, set the emission level of the standards, and distinguish among classes, types, and sizes within categories in establishing the standards. 42 U.S.C. 7411(b).

The CAA section 111(b)(1)(B) (42 U.S.C. 7411(b)(1)(B)) requires the EPA to "at least every 8 years review and, if appropriate, revise" new source performance standards. The CAA section 111(a)(1) (U.S.C. 7411(a)(1)) provides that performance standards are to "reflect the degree of emission limitation achievable through the application of the best system of emission reduction which (taking into account the cost of achieving such reduction and any non-air quality health and environmental impact and energy requirements) the Administrator determines has been adequately demonstrated." 42 U.S.C. 7411(a)(1). This definition makes clear that the EPA is to determine both the best system of emission reduction (BSER) for the regulated sources in the source category and the degree of emission limitation achievable through application of the BSER. The EPA must then, under CAA section 111(b)(1)(B), promulgate standards of performance for new sources that reflect that level of stringency. CAA section 111(b)(5)

precludes the EPA from prescribing a particular technological system that must be used to comply with a standard of performance. Rather, sources can select any measure or combination of measures that will achieve the standard.

Pursuant to the definition of new source in CAA 111(a), proposed standards of performance apply to facilities that begin construction, reconstruction, or modification after the date of publication of such proposed standards in the *Federal Register*.

2. NESHAP Authority

The statutory authority for this action is provided by sections 112 and 301 of the CAA, as amended (42 U.S.C. 7401 et seq.). Section 112(d)(6) requires the EPA to review standards promulgated under CAA section 112(d) and revise them "as necessary (taking into account developments in practices, processes, and control technologies)" no less often than every 8 years following promulgation of those standards. This is referred to as a "technology review" and is required for all standards established under CAA section 112(d) including generally available control technology standards that apply to area sources.[1] This action constitutes the 112(d)(6) technology review for the Lead Acid Battery Manufacturing area source NESHAP.

Several additional CAA sections are relevant to this action as they specifically address regulation of hazardous air pollutant (HAP) emissions from area sources. Collectively, CAA sections 112(c)(3), (d)(5), and (k)(3) are the basis of the Area Source Program under the Urban Air Toxics Strategy, which provides the framework for regulation of area sources under CAA section 112.

Section 112(k)(3)(B) of the CAA requires the EPA to identify at least 30 HAP that pose the greatest potential health threat in urban areas with a primary goal of achieving a 75-percent reduction in cancer incidence attributable to HAP emitted from stationary sources. As discussed in the Integrated Urban Air Toxics Strategy (64 FR 38706, 38715, July 19, 1999), the EPA

[1] For categories of area sources subject to GACT standards, CAA sections 112(d)(5) and (f)(5) provide that the residual risk review requirement of CAA section 112(f)(2) does not apply. No such exemption exists for the CAA section 112(d)(6) technology review.

identified 30 HAP emitted from area sources that pose the greatest potential health threat in urban areas, and these HAP are commonly referred to as the "30 urban HAP."

Section 112(c)(3), in turn, requires the EPA to list sufficient categories or subcategories of area sources to ensure that area sources representing 90 percent of the emissions of the 30 urban HAP are subject to regulation. The EPA implemented these requirements through the Integrated Urban Air Toxics Strategy by identifying and setting standards for categories of area sources including the Lead Acid Battery Manufacturing source category that is addressed in this action.

CAA section 112(d)(5) provides that for area source categories, in lieu of setting maximum achievable control technology (MACT) standards (which are generally required for major source categories), the EPA may elect to promulgate standards or requirements for area sources "which provide for the use of generally available control technology or management practices [GACT] by such sources to reduce emissions of hazardous air pollutants." In developing such standards, the EPA evaluates the control technologies and management practices that reduce HAP emissions that are generally available for each area source category. Consistent with the legislative history, we can consider costs and economic impacts in determining what constitutes GACT.

B. What is this source category and how do the current rules regulate its emissions?

Lead Acid Battery Manufacturing includes any facility engaged in producing lead acid batteries. Pursuant to the CAA 111 authority described above, performance standards were set in 40 CFR part 60, subpart KK for the Lead Acid Battery Manufacturing source category on April 16, 1982 (47 FR 16564). Many years later, pursuant to the CAA 112 authority described above, GACT standards were set for the Lead Acid Battery Manufacturing source category on July 16, 2007 (72 FR 135). As noted above, this proposed action presents the required CAA 112(d)(6) technology review for that source category.

Under 40 CFR 60 subpart KK a lead acid battery manufacturing plant is defined as any plant that produces a storage battery using lead and lead compounds for the plates and sulfuric acid for the electrolyte. While 40 CFR 63 subpart PPPPPP defines a lead acid battery manufacturing plant in the same manner as 40 CFR 60 subpart KK, the source category under section 112 includes, but is not limited to, lead oxide production, grid casting, paste mixing, and three-process operation (battery assembly).

The batteries manufactured at these facilities include starting, lighting, and ignition batteries primarily used in automobiles as well as industrial and traction batteries. Industrial batteries include those used for uninterruptible power supplies and other backup power applications, and traction batteries are used to power electric vehicles such as forklifts.

The lead acid battery manufacturing process begins with the stamping or casting of Pb into grids. Lead oxide powder is mixed with water and sulfuric acid to form a stiff paste, which is then pressed onto the lead grids, creating plates. Lead oxide may be produced by the battery manufacturer, as is the case for many larger battery manufacturing plants or may be purchased from a supplier. The plates are cured, stacked, and connected into groups that form the individual elements of a lead acid battery. This stacking, connecting, and assembly of the plates into battery cases is generally performed in one operation termed the “three process operation.”

There are 40 Lead Acid Battery Manufacturing facilities in the United States located across 18 states and owned by 19 different entities. There is a significant size range across the parent companies: from about 20 to 150,000 employees, and annual revenues from about $4 million to $47 billion. Eight parent companies, owning ten LAB facilities, are small businesses with revenues from $4 million to $147 million. In addition, a small entity owns two lead oxide manufacturing facilities that will become subject to the proposed NESHAP under our proposed revision to the applicability provisions.

Based on our review, we conclude that all 40 sources are currently subject to the NSPS for lead acid battery manufacturing plants in 40 CFR part 60, subpart KK. Subpart KK applies to

all lead acid battery manufacturing plants constructed, reconstructed, or modified since 1982 if they produce or have the design capacity to produce in one day batteries containing an amount of Pb equal to or greater than 5.9 megagrams (6.5 tons). Based on available information, the production capacities for all 40 existing facilities are above this threshold. The current NSPS ("NSPS KK") contains emissions limits for Pb and opacity limits from each of the specific lead acid battery manufacturing processes, including grid casting, lead oxide manufacturing, paste mixing, and three-process operation. It also includes Pb emissions limits and opacity limits for lead reclamation and other lead-emitting processes. As for the NESHAP, in 2007, the EPA promulgated GACT standards for the Lead Acid Battery Manufacturing area source category under 40 CFR part 63, subpart PPPPPP. The GACT standards include the same emissions and opacity limits as those in the Lead Acid Battery Manufacturing NSPS KK as well as some additional monitoring requirements that were not included in the NSPS KK. The NESHAP applies to all lead acid battery manufacturing facilities that are area sources regardless of production capacity. The EPA estimates that one of the 40 lead acid battery manufacturing facilities in the U.S. that is subject to the NSPS KK is a major source as defined under CAA section 112, and is therefore not subject to the area source GACT standards[2]. In addition to these 40 facilities, we estimate that there are six facilities that have one or more processes involved in the production of lead acid batteries, but they do not make the final battery product. One parent company is a small entity owning two facilities. These six facilities are not currently subject to either the NSPS KK or the area source NESHAP.

C. *What data collection activities were conducted to support this action?*

During our reviews of the current NSPS (40 CFR part 60, subpart KK) and NESHAP (40 CFR part 63, subpart PPPPPP) and the development of the proposed new NSPS subpart ("NSPS KKa") (i.e., 40 CFR part 60, subpart KKa) and proposed amendments to the NESHAP, the EPA

[2] East Penn Manufacturing, located in Pennsylvania

used emissions and supporting data from the 2017 National Emissions Inventory (NEI) and Toxics Release Inventory (TRI).

A variety of sources were used to compile a list of facilities subject to subpart KK and subpart PPPPPP. The list was based on information downloaded from the EPA's Enforcement and Compliance History Online (ECHO) database and the EPA's Emissions Inventory System (EIS) database. The ECHO system contains compliance and permit data for stationary sources regulated by the EPA. The ECHO database was queried by Standard Industrial Classification (SIC) and NAICS code as well as by subpart. The NEI data from 2017 were also queried through the EIS database. The industry association, Battery Council International (BCI), reviewed the draft facility list and provided updates where necessary.

D. What other relevant background information and data are available?

In addition to the NEI, TRI, ECHO, and EIS databases, the EPA reviewed the additional information sources listed below to determine whether there have been developments in practices, processes, or control technologies by lead acid battery manufacturing sources. These include the following:

- Air permit limits and selected compliance options from permits that were available online. A number of states did not have permits available online or only had some permits available online. Those permits were obtained through working with the EPA Regional Offices or communicating with states. Through these efforts, we obtained and reviewed state permits for 37 of the 40 plants currently subject to the rules to inform the technology review and BSER review and to obtain other relevant information about the source category such as monitoring approaches applied. We also obtained and reviewed six permits for the six additional facilities that, under the proposed revisions to the NESHAP's applicability provisions, would become subject to the NESHAP.
- Information provided by state agencies. This included such data as emissions tests, inspection reports, and emissions reports.

- Communication with the industry association representing the industry in the affected NAICS category and their members.
- Search of the Reasonably Available Control Technology (RACT)/Best Available Control Technology (BACT)/Lowest Achievable Emission Rate (LAER) Clearinghouse (RBLC).
- A 1989 draft review document (titled Review of New Source Performance Standards for Lead-Acid Battery Manufacture, Preliminary Draft, October 1989), which is available in the docket for this rulemaking.

III. Analytical Procedures and Decision-Making

A. How does the EPA perform the NSPS review?

In reviewing an NSPS, the EPA reevaluates the BSER factors considering any advances in technologies, changes in cost, and other factors. The EPA evaluates whether available information from the implementation and enforcement of current requirements indicate that emission limitations and percent reductions beyond those required by the standards are achieved in practice. In reviewing an NSPS the following is considered:

- Expected growth for the source category, including how many new facilities, reconstructions, and modifications may trigger NSPS in the next 8 years.
- Advances in control technologies, process operations, design or efficiency improvements, or other factors that would lead to selection of a more stringent BSER. This includes an analysis of costs (capital and annual costs) and emission reductions (cost effectiveness) expected from such advances as well as any non-air quality health and environmental impact and energy requirements associated with those advances.

In addition to reviewing the BSER that were considered at the time NSPS subpart KK was developed, we reviewed additional data sources developed since NSPS subpart KK was promulgated in 1982. We also reviewed the NSPS KK and the available data to determine if any requirements associated with the current standards need to be updated to ensure compliance. See

sections II.C and II.D of this preamble for information on the specific data sources that were reviewed as part of this action.

B. How does the EPA perform the technology review?

For the NESHAP area source GACT standard, our technology review primarily focuses on the identification and evaluation of developments in practices, processes, and control technologies that have occurred since the standards were promulgated. Where we identify such developments, we analyze their technical feasibility, estimated costs, energy implications, and non-air environmental impacts. We also consider the emission reductions associated with applying each development. This analysis informs our decision of whether it is "necessary" to revise the emissions standards. In addition, we consider the appropriateness of applying controls to new sources versus retrofitting existing sources. For this exercise, we consider any of the following to be a "development":

- Any add-on control technology or other equipment that was not identified and considered during development of the original GACT standards;
- Any improvements in add-on control technology or other equipment (that were identified and considered during development of the original GACT standards) that could result in additional emissions reduction;
- Any work practice or operational procedure that was not identified or considered during development of the original GACT standards;
- Any process change or pollution prevention alternative that could be broadly applied to the industry and that was not identified or considered during development of the original GACT standards; and
- Any significant changes in the cost (including cost effectiveness) of applying controls (including controls the EPA considered during the development of the original GACT standards).

In addition to reviewing the practices, processes, and control technologies that were considered at the time we originally developed the NESHAP, we review a variety of data sources in our investigation of potential practices, processes, or controls to consider. See sections II.C and II.D of this preamble for information on the specific data sources that were reviewed as part of the technology review.

IV. Analytical Results and Proposed Rule Summary and Rationale

A. Results of Ambient Air Monitoring Data and Model Screening Analyses

Since the primary HAP emitted from this source category is Pb, also a criteria pollutant, and because of significant concerns regarding the potential for Pb emissions from various sources to pose impacts to public health, including in environmental justice impacted communities, the EPA decided to conduct an analysis of available ambient air monitoring data near lead acid battery facilities as well as a screening analysis using dispersion modeling to assess the potential for impacts due to emissions from lead acid battery facilities. The results of these analyses are presented below and in more detail in the memoranda titled *Emissions and Ambient Monitoring Data Used for the Lead Acid Battery Manufacturing Rule Reviews* and *Assessment of Potential Health Impacts of Lead Emissions in Support of the 2022 Lead Acid Battery Manufacturing Technology Review of Area Sources Proposed Rule*, which are available in the docket for this proposed rule. These modeling results, along with the available monitoring data, indicate that the area sources are not likely to pose significant risks or impacts to human health if they are complying with the NESHAP.

1. Ambient Air Monitoring Analysis

Ten lead acid battery facilities have Pb ambient air monitors at or near the facility. The list of facilities and details on the data analysis can be found in the memorandum *Emissions and Ambient Monitoring Data Used for the Lead Acid Battery Manufacturing Rule Reviews.* Nine of the ten facilities have had Pb levels well below the Pb National Ambient Air Quality Standard (NAAQS), which is 0.15 $\mu g/m^3$ (based on a 3-month rolling average), at all times in the past 3

years (2018-2020). One facility in Kentucky had a NAAQS exceedance (where 3-month rolling average of monitored Pb levels exceeded 0.15 $\mu g/m^3$) in 2018 due to a baghouse malfunction. This malfunction was due to failure to operate and maintain the control equipment in a manner consistent with good air pollution control practices, and the malfunction was dealt with through an agreed order between the Energy and Environment Cabinet of Kentucky and the facility. The order is available in the docket for this proposed rule. The issue was fixed in 2018, and the ambient air Pb levels at the Kentucky facility were well below the NAAQS in 2019 and 2020.

2. Dispersion Modeling Screening Analysis

The EPA conducted a screening analysis using the American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD) dispersion model for 17 lead acid battery facilities. This subset of facilities was chosen because they had an ambient monitor nearby (7 facilities; including 6 area source and one major source) or their total estimated Pb emissions were greater than 0.05 tons per year (tpy) (10 additional facilities). Results from this screening prompted more refined modeling of the seven facilities with monitors nearby. In this refined modeling, other lead-emitting sources located within 10 km of one of the monitors were included. The modeled annual concentrations of Pb were compared to monitored annual concentrations. Two adjustment factors were applied to the modeled annual concentrations: one to convert the annual concentrations to a 3-month rolling average, which is the form of the NAAQS, and the second to adjust the modeled result based on the ambient concentrations monitored at each site. The adjusted maximum modeled concentrations were well below the NAAQS of 0.15 $\mu g/m^3$ for all facilities modeled. More details on the modeling of the area sources are presented in *Assessment of Potential Health Impacts of Lead Emissions in Support of the 2022 Lead Acid Battery Manufacturing Technology Review of Area Sources Proposed Rule,* which is available in the docket. Based on these analyses, because all results were below the lead NAAQS, we conclude that the area sources are not likely to pose significant risks or impacts to human health if they are complying with the NESHAP. The one major source,

while not subject to the area source NESHAP, is a well-controlled facility with emission limits equal to or more stringent than the emission limits in the NESHAP pursuant to state requirements. We intend to address this major source facility (and any other potential future major sources) in a separate future action.

B. What are the results and proposed decisions based on our NSPS review, and what is the rationale for those decisions?

This action presents the EPA's review of the requirements of 40 CFR part 60, subpart KK pursuant CAA 111(b)(1)(B). As described in section III.A of this preamble, the statutory review of the NSPS KK for lead acid battery manufacturing plants focused on whether there are any emission reduction techniques that are used in practice that achieve greater emission reductions than those currently required by the NSPS KK for lead acid battery manufacturing and whether any of these developments in practices have become the "best system of emissions reduction." Based on this review, we have determined that fabric filters with at least 99 percent control efficiency represent the updated BSER for grid casting and lead reclamation operations, and fabric filters with secondary filters (such as a high efficiency particulate air (HEPA) filter) are the updated BSER for paste mixing operations at large facilities with capacity to process greater than or equal to 150 tons per day (tpd) of Pb (referred to as large facilities for the remainder of this preamble). As such, we are proposing revised Pb emission limits to reflect the updated BSER for grid casting, lead reclamation, and paste mixing. The proposed updated standards would limit Pb from grid casting operations to 0.04 milligrams Pb per dry standard cubic meter (0.04 mg/dscm) (0.0000175 grains per dry standard cubic foot (gr/dscf)) and from lead reclamation facilities to 0.45 mg/dscm (0.000197 gr/dscf). The proposed updated standards would limit Pb to 0.1 milligrams Pb per dry standard cubic meter (0.1 mg/dscm, equivalent to 0.0000437 gr/dscf) for paste mixing operations at large facilities. The analyses and rationale for these proposed rule changes are explained below.

For facilities with capacity to process less than 150 tpd of Pb (referred to as small facilities for the remainder of this preamble), the EPA is proposing to retain the standard of 1 mg/dscm for paste mixing facilities and to retain the opacity limits for these operations (0 percent for grid casting and paste mixing and 5 percent for lead reclamation). The EPA is also proposing to retain the Pb emission limits and opacity limits for three-process operations, other lead-emitting operations, and lead oxide manufacturing. The analyses and rationale for proposing to retain the current standards for these operations are also explained below.

With regard to monitoring, testing, and other compliance assurance measures, we have identified proposed improvements to requirements associated with the current standards that will help ensure compliance, including: bag leak detection system requirements for fabric filters at large facilities; increased inspections of fabric filters at all facilities without secondary filters to ensure proper performance; performance testing for compliance once every 5 years at all facilities (with allowances for representative stacks as determined by the delegated authority); and work practices to minimize fugitive dust emissions.

The results and proposed decisions based on the analyses performed pursuant to CAA section 111(b) are presented in more detail below. Pursuant to CAA section 111(a), the proposed standards included in this action apply to facilities that begin construction, reconstruction, or modification after [**INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER**].

a. Revised Pb Emission Limit for Grid Casting Operations and Lead Reclamation.

New source performance standards were first proposed in 40 CFR part 60, subpart KK for the Lead Acid Battery Manufacturing source category on January 14, 1980 (45 FR 2790). The EPA proposed lead emission limits based on fabric filters with 99 percent efficiency for grid casting and lead reclamation operations. The EPA documented its rationale for these proposed lead emission limits in the *Lead Acid Battery Manufacture-Background Information for Proposed Standards* (EPA-450/3-79-028a, November 1979). In public comments on the 1980 proposed rule, stakeholders had multiple concerns with the selection of fabric filtration as the

best system of emission reduction for these operations. Commenters stated that these facilities were normally controlled by impingement scrubbers (at the time of the 1980 proposal). They further pointed out that the only grid casting facility that was controlled by a fabric filtration system at that time was plagued by fires and asserted that spark arrestors (a safety device used to prevent ignition of flammable emissions) would not solve the problem. Apart from the problem of fires, commenters contended that contaminants present in the exhaust gases from grid casting and lead reclamation would cause frequent bag blinding. In light of these issues, in 1982 the EPA promulgated final standards in NSPS subpart KK for grid casting and lead reclamation based on impingement scrubbers with 90 percent efficiency, instead of fabric filters.[3]

As discussed in the memorandum *Technology Review and NSPS Review for Lead Acid Battery Manufacturing* (hereafter referred to as "Technology Review Memorandum"), since the promulgation of the 1982 NSPS KK, it has become feasible and common for lead acid battery manufacturing plants to control Pb emissions from the grid casting and lead reclamation processes with fabric filters without the issues (e.g., fires and bag blinding) identified in the 1982 rulemaking. For example, during the current technology and BSER reviews, we discovered that most facilities (at least 30 of the 40 facilities currently subject to subpart KK) are now using fabric filters (with estimated efficiency of at least 99 percent), and sometimes combined with other controls (HEPA filters or scrubber) to control emissions from grid casting. Furthermore, we did not identify any facilities using only a wet scrubber. Therefore, we conclude that fabric filters are clearly feasible and well demonstrated as an appropriate control technology for grid casting operations. Also, based on our research, no facilities currently do lead reclamation. However, based on our review of 37 permits, we found two permits that mention having lead reclamation equipment, and those two lead reclamation processes are controlled with fabric filters.

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[3] See the final NSPS published on April 16, 1982 (47 FR 16564) and the *Lead-Acid Battery Manufacture-Background Information for Promulgated Standards, November 1980,* EPA-450/3-79-028b

With a reduction efficiency of 99 percent, compared to the 90 percent reduction efficiency for the emissions control technology available when the 1982 NSPS KK was developed, fabric filters represent an improvement in emissions reduction technology capable of reducing Pb emissions further than that of the current emission limits based on scrubbers.

To assess whether fabric filters are the best system of emission reduction for controlling Pb emissions from grid casting and lead reclamation processes, we examined the costs and emission reductions from installing and operating fabric filters on large and small facilities. In the 1989 draft review of the NSPS KK, EPA determined that a large facility was one that could produce in any one day an amount of lead equal to 150 tons, a medium facility could produce lead equal to 100 tons in any one day, and a small facility was one with the capacity to produce in any one day lead equal to 20 tons. Based on available data for existing facilities in this action, we determined that the threshold of 150 tons of lead per day is still an appropriate cut-off for large facilities. However, based on available information we determined that a broader category was appropriate to define all other facilities (with less than 150 tons per day capacity), which we refer to collectively as "small" facilities in this action.

To calculate costs, emission reductions, and cost effectiveness for grid casting and lead reclamation, we used the estimated emissions from a 1989 EPA preliminary draft review of the NSPS KK as well as cost of controls from that 1989 document (scaled up to 2020 dollars). Further information regarding cost estimates and emission estimates are provided in the memoranda titled: *Estimated Cost Impacts of Best System of Emission Reduction Review of Subpart KK and Subpart PPPPPP Technology Review and Emissions and Ambient Monitoring Data Used for the Lead Acid Battery Manufacturing Rule Reviews*, which are available in the docket for this proposed rule. We estimated the costs of (1) a new grid casting and lead reclamation facility using fabric filters with 99 percent efficiency and (2) a theoretical "baseline" facility using a scrubber with 90 percent efficiency, consistent with the current standards in the

NSPS subpart KK.[4] The baseline facility and their estimated emissions were developed using information from the 1989 study including Pb emissions estimates for the grid casting and lead reclamation process in the 1989 study that are representative of the level of emissions that would be emitted by a facility complying with the current NSPS KK standard (based on the application of an impingent wet scrubber at 90 percent reduction efficiency). A small and large baseline facility were then compared to a new model small and large facility with the application of a fabric filter at 99 percent reduction efficiency. The results of the cost and emissions analysis are discussed below.

Grid Casting Facility. We estimate Pb emissions for a small and large uncontrolled grid casting facility are 0.5 tpy and 1.3 tpy, respectively. We estimate Pb emissions for a small and large baseline grid casting facility which is complying with the current NSPS KK emission limit based on a wet scrubber with 90 percent efficiency are 0.05 tpy and 0.13 tpy, respectively. We estimate Pb emissions for a small and large model facility that would comply with an emission limit based on the application of a fabric filter with 99 percent efficiency are 0.005 tpy and 0.013 tpy, respectively.

Capital costs for the baseline facility to purchase and install a wet scrubber are estimated to be $114,000 for a small facility, and $316,000 for a large facility. Annualized costs for the baseline facility are estimated to be $56,000 for a small facility and $115,000 for a large facility.

Capital costs for the model facility to purchase and install a fabric filter with 99 percent efficiency are estimated to be $167,000 for a small facility and $402,000 for a large facility. Annualized costs for the model facility are estimated to be $79,600 for a small facility and $155,000 for a large facility.

The total reductions in Pb emissions with a fabric filter compared to uncontrolled emissions are estimated to be 0.45 tpy for a small facility and 1.2 tpy for a large facility. The

[4] The 1989 draft review document (titled *Review of New Source Performance Standards for Lead-Acid Battery Manufacture, Preliminary Draft*, October 1989) is available in the docket for this rulemaking.

incremental reductions in Pb emissions with a fabric filter compared to the current NSPS KK baseline controls (i.e., impingent scrubber) are estimated to be 0.045 tpy (i.e., 0.05 tpy – 0.005 tpy = 0.045 tpy) for a small facility and incremental cost effectiveness for a small grid casting facility is $524,000 per ton of Pb reduced. Incremental reductions in Pb emissions are estimated to be 0.12 tpy for a large facility with incremental cost effectiveness of $333,000 per ton of Pb. Detailed cost information and analyses for both sizes of facilities are shown in the Technology Review Memorandum available in the docket.

The results of the cost and emissions analyses indicate that the estimated cost effectiveness for the application of fabric filter to control Pb emissions are within the range of what the EPA has considered in other rulemakings to be a cost-effective level of control for Pb emissions relative to the baseline plant. For example, in the 2011 and 2012 Secondary Lead Smelting RTR proposed and final rules, the EPA accepted a cost effectiveness up to about $1.3M/ton for metal HAP (mainly Pb, based on 2009 dollars).[5] We also evaluated the addition of secondary HEPA filters along with fabric filters as a possible BSER, as described in the Technology Review Memorandum. However, we determined such additional controls are not cost effective for grid casting operations.

Given that fabric filters are a well-demonstrated and feasible control technology for grid casting (as described above) and given that this technology is cost effective, based on this review, we are proposing to determine that fabric filters with at least 99 percent control efficiency represent the new BSER for grid casting. Furthermore, we have not identified any non-air environmental impacts and energy requirements. Therefore, we are proposing to revise the Pb emissions limit for grid casting facilities to reflect the degree of emission limitation achievable through the application of the proposed BSER. The EPA is proposing in a new NSPS subpart (subpart KKa) a Pb emission limit of 0.04 mg/dscm that will apply to grid casting

[5] See Secondary Lead RTR Proposed Rule, 76 FR 29032, May 19, 2011, and the Final rule, 77 FR 556, January 5, 2012.

operations that commence construction, reconstruction, or modification after **[INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

Lead Reclamation Facility. We estimate Pb emissions for three types of facilities, as follows: (1) for a small and large uncontrolled lead reclamation facility are 0.4 tpy and 1.1 tpy, respectively; (2) for a small and large baseline lead reclamation facility (i.e., based on the 1982 NSPS KK and application of an impingent wet scrubber with 90 percent control efficiency, as described above) are 0.04 tpy and 0.11 tpy, respectively; and (3) for a small and large model lead reclamation facility (based on application of a fabric filter with 99 percent control efficiency) are 0.004 tpy, and 0.011 tpy, respectively.

Capital costs for baseline facilities to purchase and install a wet scrubber are estimated to be $74,000 for a small and large lead reclamation facility based on our assumption that all plant sizes have the same size reclamation facility at the time reclamation occurs at such facilities (as explained above, we have not identified any facilities currently conducting lead reclamation). Annualized costs for the baseline facilities are estimated to be $27,500 for a small facility and $39,700 for a large facility.

Capital costs for the model facility to purchase and install a baghouse with 99 percent efficiency are estimated to be $91,000 for a small and large facility. Annual costs for the model facility are estimated to be $36,000 for a small facility and $52,700 for a large facility.

The cost effectiveness of application of a fabric filter compared to uncontrolled emissions for a small lead reclamation facility is $90,900 per ton of Pb reduced and for a large facility is $48,000 per ton of Pb. The incremental reductions in emissions are 0.036 tpy year for a small reclamation operation and 0.1 tpy for a large unit. The estimated incremental cost effectiveness of a fabric filter compared to NSPS KK baseline (application of a scrubber) for a small lead reclamation facility is $236,000 per ton of Pb reduced and for a large facility is $130,000 per ton of Pb. Detailed cost information for both facility size categories is shown in the Technology Review Memorandum.

Based on our research, we estimate that no facilities currently do lead reclamation. However, based on our review of 37 permits, we found two permits that mention having lead reclamation equipment, and those two reclamation processes are controlled with fabric filters. We also evaluated the addition of secondary HEPA filters along with fabric filters as a possible BSER, as described in the Technology Review Memorandum. However, we determined such additional controls are not cost effective for lead reclamation activities.

Overall, based on our review, we conclude that it is technically feasible for facilities to control Pb emissions from lead reclamation with a fabric filter. Regarding costs, results of the cost analyses indicate that the cost effectiveness estimated are within the range of what the EPA has considered to be a cost-effective level of control for Pb emissions relative to the baseline model plant, as described above under the grid casting analysis section. Therefore, we are proposing to determine that fabric filters with at least 99 percent control efficiency represent the new BSER for lead reclamation facilities and we are proposing to revise the Pb emissions limit for lead reclamation facilities to reflect the degree of emission limitation achievable through the application of the proposed BSER. The EPA is proposing in a new NSPS subpart (subpart KKa) a revised Pb emissions limit of 0.45 mg/dscm that will apply to lead reclamation operations that commence construction, reconstruction, or modification after **[INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

b. Revised Pb Emission Limit for Paste Mixing Facilities

In the 1982 NSPS KK final rule April 16, 1982 (47 FR 16564), the EPA determined BSER for paste mixing was based on application of a fabric filter control system. The use of HEPA filters as a potential secondary control was not mentioned in either the 1980 proposed rule January 14, 1980 (45 FR 2790) or 1982 final rule April 16, 1982 (47 FR 16564) *Federal Register* notices.

However, since that time, as discussed in the Technology Review Memorandum, HEPA filters have become readily available. A notable number of facilities in the lead acid battery

manufacturing source category now use HEPA filters to control emissions from some processes as a secondary control device following a fabric filter. HEPA filters are capable of removing at least 99.97 percent of particles with a size of 0.3 microns (μm). The diameter specification of 0.3 μm responds to the worst case – the most penetrating particle size. Particles that are larger or smaller are trapped with even higher efficiency. With a secondary HEPA filter's capability to achieve additional reduction efficiency of at least 99.97 percent following the fabric filters compared to the 99 percent reduction efficiencies of the primary fabric filter, the BSER emissions control technology available when the NSPS KK was developed (i.e., fabric filters) combined with a secondary HEPA filter represents an improvement in emissions reduction technology. The EPA evaluated and considered this improvement in emissions reduction technology at grid casting, paste mixing, three-process operations, lead oxide manufacturing, and lead reclamation facilities. As described below, adding secondary HEPA filters to a paste mixing facility's current control device were found to be cost effective at large facilities while this technology was not found to be cost effective for the other processes or facilities considered. The results are discussed below and in more detail in the Technology Review Memorandum.

Paste Mixing Facility. Based on our review, paste mixing operations have the highest potential for Pb emissions compared to all other processes at lead acid battery manufacturing facilities. We identified 16 facilities (40 percent of the total) that currently have secondary filters to achieve much higher control efficiency on their paste mixing operations. This technology has been clearly demonstrated to be feasible for a number of facilities.

Emissions for a small and large baseline paste mixing facility (based on application of a fabric filter) are estimated to be 0.026 tpy and 0.10 tpy, respectively. Emissions for a small and large model facility with a fabric filter plus a secondary HEPA filter are estimated to be 8E-06 tpy, and 3E-05 tpy, respectively. With reduction efficiency of 99.97 percent, we estimate Pb emissions reductions from baseline facility compared to model facility with secondary HEPA filter would be 0.026 and 0.1 tpy for small and large facilities, respectively.

Capital costs for a new small facility to add secondary HEPA filters on their paste mixing process are estimated to be $57,000 and for a new large facility $135,000. Annualized costs are estimated to be $43,700 for a new small facility and $88,800 for a new large facility. We note that the EPA 1989 preliminary draft NSPS KK review document (cited above), indicated that facilities could achieve significant cost savings by recirculating air back into the plant and from recycling baghouse dust which would reduce annual cost estimates. However, based on our review of available information, we do not have reason to believe that these savings would occur today due to OSHA and RCRA requirements and potentially other factors such as various state requirements. This topic is discussed in more detail in the Technology Review Memorandum cited above. We solicit comment regarding whether or not cost savings would occur with the installation and operation of secondary HEPA filters and if so, how much savings would actually occur.

Given the estimated annual costs and estimated reductions described above, the incremental cost effectiveness of a fabric filter plus a secondary HEPA filter for a new small facility is estimated to be $1,680,000 per ton of Pb reduced and for a new large facility is $888,000 per ton of Pb reduced (in 2020 dollars) as compared to the baseline paste mixing facilities (based on application of a fabric filter). Detailed cost information for both facility size categories are provided in the Technology Review Memorandum.

The results of the cost and emission analyses indicate that the estimated cost effectiveness for new large facilities is within the range of what the EPA has considered to be a cost-effective level of control for Pb emissions. Furthermore, as mentioned above, we identified 16 facilities that currently apply this technology, which indicates the technology is clearly feasible. However, the results of the cost and emission analyses indicate that the estimated cost effectiveness for small facilities is above the range of what the EPA has considered to be a cost-effective level of control for Pb emissions. Further information regarding the cost estimates and emission estimates are provided in the memoranda titled: *Estimated Cost Impacts of Best System*

of Emission Reduction Review of Subpart KK and Subpart PPPPPP Technology Review and Emissions and Ambient Monitoring Data Used for the Lead Acid Battery Manufacturing Rule Reviews, which are available in the docket for this proposed rule**.**

Since secondary HEPA filters have been demonstrated and are a feasible control technology for paste mixing (as described above), and because the estimated cost effectiveness for large facilities is within the range of values accepted previously by EPA, the EPA is proposing to determine that secondary HEPA filters represent the new BSER for paste mixing at large facilities. Furthermore, we have not identified any significant non-air environmental impacts and energy requirements. Therefore, we are proposing to revise the Pb emissions limit for paste mixing operations at large facilities to reflect the degree of emission limitation achievable through the application of the proposed BSER. The EPA is proposing in a new NSPS subpart (subpart KKa) standard of performance of 0.1 mg/dscm that will apply to paste mixing operations at large facilities (i.e., at facilities with capacity to process in one day an amount equal to or greater than 150 tons of Pb) that commence construction, reconstruction, or modification after **[INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER]**. We are not proposing any changes to the emissions limits for paste mixing operations at small facilities because of the costs and cost effectiveness, and potential economic impacts to the smaller facilities to add secondary filters if they were to undergo reconstruction, modification, or build a new small facility. Therefore, we are proposing to retain the current standard of 1.00 mg/dscm for paste mixing operations at small facilities that commence construction, reconstruction, or modification after **[INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER]**, as the analysis showed that the application of a fabric filter at 99 percent continues to be the BSER for these facilities.

c. Review of Other Process Units at Lead Acid Battery Manufacturing Facilities

In addition to paste mixing, we also evaluated potential updates to the BSER and the emissions limits for the three-process operations and lead oxide manufacturing but did not

identify any cost-effective options. Therefore, we are proposing to retain in the new NSPS subpart (subpart KKa) the emissions limits for these two emissions sources (i.e., 1.00 mg/dscm for three-process operations and 5.0 mg/kg feed for lead oxide manufacturing) for facilities that commence construction, reconstruction, or modification after [**INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER**]. The data and analyses regarding these operations are provided in the Technology Review Memorandum, which is available in the docket.

d. Fabric filter and Scrubber monitoring, reporting, and recordkeeping requirements that are consistent with the requirements in 40 CFR part 63, subpart PPPPPP

As mentioned above, we have identified improvements in compliance requirements related to the current performance standards for lead acid battery manufacturing facilities. In addition to proposing the revised performance standards discussed above, we are proposing minor changes to be included in the new NSPS subpart KKa to update the applicable requirements and enhance compliance and enforcement. A standard requirement for monitoring scrubber systems is to measure liquid flow rate across the system. The NSPS KK currently only requires monitoring and recording pressure drop across the scrubber system every 15 minutes. We propose to add an additional requirement to monitor and record liquid flow rate across each scrubbing system at least once every 15 minutes. We expect that there would be no costs associated with this requirement for new sources because this is a standard monitoring equipment in scrubbing systems. Many of the lead acid battery manufacturing facilities use fabric filters for controls, but the current NSPS subpart KK does not include compliance requirements for these devices. We propose to add monitoring, reporting, and recordkeeping requirements associated with the use of fabric filters to the new NSPS subpart KKa. These proposed requirements are consistent with the monitoring, reporting, and recordkeeping requirements for lead acid battery manufacturing sources that use fabric filters to comply with the current area source GACT requirements in 40 CFR part 63, subpart PPPPPP along with three

proposed amendments for subpart PPPPPP in this action, as follows: increased frequency of fabric filter inspections from semi-annually to monthly for fabric filters without secondary filters (e.g., HEPA filters); replacement bags on site; and addition of bag leak detection systems for large facilities that do not have secondary filters, as described in more detail below. The proposed requirements, for any emissions point controlled by a fabric filter, include the following:

- You must perform and record monthly inspections and maintenance to ensure proper performance of each fabric filter unless you have a secondary filter (see below). This includes inspection of structural and filter integrity.
- You must either install, maintain, and operate a pressure drop monitoring device to measure the differential pressure drop across the fabric filter at all times when the process is operating, and record pressure drop at least once per day or conduct a visible emissions observation at least once per day. If pressure drop is outside the normal range or visible emissions (VE) are detected, you must record the incident, and take and record immediate corrective action. In the case where pressure drop is outside the normal range, you must also submit a monitoring system performance report; and in the case of detected VEs, you must also conduct an opacity measurement (Method 9), and if it exceeds the applicable opacity standard then you must also submit an excess emissions report.
- For systems with fabric filters equipped with a secondary filter, you may monitor (pressure drop or visible emissions) less frequently (weekly), and you may perform and record inspections and maintenance as directed by the manufacturer, but no less frequently than semi-annually to ensure proper performance of each fabric filter.
- To ensure timely repair, facilities must keep replacement filters on site in case filters are damaged.

e. Bag Leak Detection Systems for Large Facilities

Through the review of regulations developed since the promulgation of the lead acid battery manufacturing NSPS KK, it was found that the NESHAP for Primary Lead Processing (40 CFR part 63, subpart TTT) and Secondary Lead Smelters (40 CFR part 63, subpart X) require fabric filters (i.e., baghouses) to have bag leak detection systems at new and existing sources, unless a secondary HEPA filter is used. These systems typically include an instrument that is capable of monitoring particulate matter loadings in the exhaust of a baghouse in order to detect bag failures (e.g., tears) and an alarm to alert an operator of the failure. These bag leak detection systems help ensure continuous compliance and detect problems early on so that damaged fabric filters can be quickly inspected and repaired as needed to minimize or prevent the release of noncompliant emissions. The current lead acid battery manufacturing NSPS KK and area source NESHAP do not have bag leak detection system requirements, but based on the permit review, we determined that eight plants currently use bag leak detection systems. Therefore, we consider the use of a bag leak detection system to be a development in operational procedures that will ensure compliance with the NSPS KKa by identifying and correcting fabric filter failures earlier than would be indicated by the daily VE or pressure drop monitoring.

The capital costs are estimated to be $68,000 and annualized costs of $14,000 per baghouse. Most existing facilities have several stacks. Given the typical number of stacks at a large facility (about 12), we estimate the total capital costs for a new large facility to include bag leak detection systems would be $802,000 and annual costs to operate and maintain the system to be $161,000. However, as described in section IV.B.d above, these facilities will not need to conduct daily pressure drop readings or VE observations and monthly inspections; therefore, we expect there to be an associated unquantified cost savings and the actual total annual costs will be somewhat lower than the values shown in this paragraph.

As discussed in section II.B above, there is a significant size range across the parent companies: from about 20 to 150,000 employees, and annual revenues from about $4 million to $47 billion. Nine parent companies, owning ten LAB facilities and two lead oxide manufacturing

facilities, are small businesses. We assume the large facilities are likely to be on the higher end of the range with regard to number of employees and annual revenues and less likely to qualify as a small business. Since bag leak detection systems are a useful tool to help ensure compliance and minimize or prevent noncompliant emissions and given the range of revenues across the companies, we think the costs are reasonable and feasible for the large facilities. Therefore, the EPA is proposing that large facilities (i.e., those with equal to or greater than 150 tpd capacity) must install and operate bag leak detection systems on units that do not have a secondary filter, such as a HEPA filter. We are also proposing that these large facilities that will need to install and operate bag leak detection systems, and any other facility (i.e., those with less than 150 tpd capacity) in the source category that uses bag leak detection systems due to state requirements or other reasons, will not need to conduct daily pressure drop readings or VE observations and monthly inspections (described in section IV.B.d above).

With regard to small facilities, as mentioned above, the capital costs are estimated to be $68,000 and annualized costs of $14,000 per baghouse. The average area source facility has about 8 baghouses, with a range of 1 to 33. Given the configurations of existing facilities, we assume a typical new small facility would have 3-6 baghouses. Therefore, capital costs could be in the range of $200,000 to $400,000 and annual costs could be in the range of $42,000 to $84,000 for a new small facility. As discussed in section II.B above, there is a significant size range across the parent companies: from about 20 to 150,000 employees, and annual revenues from about $4M to $47B. Nine parent companies, owning ten LAB facilities and two lead oxide manufacturing facilities, are small businesses.

Given the costs of bag leak detection systems and the range of size of companies, range of revenues and number of small businesses, the EPA has determined the costs for bag leak detection systems could be excessively burdensome for smaller facilities and could impose significant economic impacts on some of those companies; therefore, we propose that these facilities will have the monitoring requirements discussed in section IV.B.*d* above (i.e.,

inspections and VE or pressure drop readings), but not a requirement to install bag leak detection systems.

f. Performance Testing

The Lead Acid Battery Manufacturing NSPS KK requires that plants conduct an initial performance test for new, modified, or reconstructed facilities to establish that the emissions limits for that particular type of equipment can be met. In addition, performance tests are also frequently used to establish operating parameters that can be monitored to show ongoing compliance with the relevant standard(s).

While the current Lead Acid Battery Manufacturing NSPS KK requires only an initial performance test, our review of permits revealed that many state and local air agencies require plants to conduct periodic performance tests. Almost half of all 40 facilities are required to conduct performance tests on a schedule that varies from annually to once every 5 years. In addition, the EPA has been adding requirements to NESHAP when other amendments are being made to the rules to include performance tests to ensure compliance. For instance, while the original Asphalt Processing and Roofing Manufacturing NESHAP only required an initial one-time performance test, in the 2020 RTR final rule the EPA established that performance tests must be conducted at least once every 5 years (85 FR 14526) for that source category. The Iron and Steel Foundries NESHAPs also require testing of once every 5 years. Furthermore, while the original Secondary Lead Smelting NESHAP that was promulgated in 1995 only required initial performance tests for total hydrocarbons (THC), the regulation has been revised to now require annual performance tests for THCs (on the same schedule as annual testing requirements for Pb) and requires performance tests every 6 years for dioxin and furans from each source that emits those pollutants, unless the facility uses continuous emissions monitors. We consider these more frequent performance testing requirements to be a development in operational procedures that will help ensure continued compliance with the Lead Acid Battery Manufacturing NSPS KKa by

identifying emissions sources that are no longer meeting the relevant standards due to equipment deterioration or other issues.

The EPA is proposing to include in the Lead Acid Battery Manufacturing NSPS subpart KKa compliance provisions to require owners or operators of lead acid battery manufacturing affected sources to conduct performance tests once every 5 years. However, to minimize the cost impacts of such testing, the EPA is proposing to allow facilities that have two or more processes and stacks that are very similar and have the same type of control devices to test just one stack as representative of the others as approved by the EPA or the delegated authority. To explain further, in order to obtain approval for representative testing, we are proposing that facilities must submit a test plan to the EPA or the delegated authority which includes a detailed description of why the company thinks a certain stack is representative of other stacks (including input materials, detailed process description, and control devices) for review and approval by EPA or the delegated authority before such testing is performed. We are also proposing to require that the unit (within a group of stacks determined to be representative of one another) with the oldest performance test must be tested first. The order of testing for each subsequent test within that group of stacks must proceed such that the unit with the least recent performance test is the next unit to be tested. Thus, units with multiple, similar stacks will have to rotate their testing every 5-years, starting with the stack with the least recent performance test. Along with the test plan, we are also proposing that facilities must create a testing schedule, consistent with this proposed approach which indicates when subsequent tests will be performed, to be reviewed and approved by EPA or the delegated authority.

We estimate that performance testing for Pb costs about $23,000 to test one stack and an additional $5,500 to test each additional stack during the same testing event. Estimated costs for a new facility will depend on the total number of stacks to be tested. We conclude these costs are reasonable given the importance of periodic testing to help ensure continuous compliance with the standards and to ensure the control devices continue to operate as designed.

g. Work Practices to Minimize Fugitive Dust Emissions

Through the review of permits for lead acid battery manufacturing facilities, we found that some permits include fugitive dust minimization programs. In addition, since the development of the Lead Acid Battery Manufacturing NSPS KK, other rules, including the NESHAPs for primary and secondary lead smelting, have required new and existing sources to minimize fugitive dust emissions at the facilities, such as through the paving of roadways, cleaning roadways, storing lead oxide in enclosed spaces or containers, and other measures. These programs are designed to minimize particulate Pb that has been deposited to the outdoor surfaces at the facilities from becoming airborne emissions and to minimize the fugitive dust emissions from material handling and other processes that occur inside the buildings or outdoors. Neither the Lead Acid Battery Manufacturing NSPS KK nor the area source NESHAP have any fugitive dust minimization requirements to limit Pb emissions from these sources.

We are proposing to include in the NSPS subpart KKa a requirement for facilities to develop and implement a fugitive dust minimization plan, which must include certain elements, such as the following:

i. Clean or treat surfaces used for vehicular material transfer activity at least monthly;
ii. store dust-forming material in enclosures; and
iii. inspect process areas daily for accumulating lead-containing dusts and wash and/or vacuum the surfaces accumulating such dust with a HEPA vacuum device/system.

We estimate that the cost burden will be mostly labor to develop and implement the dust plan. Total estimated initial cost for a new facility to develop a fugitive dust plan is $7,600 and annual costs to implement the plan are estimated to be $13,000 per facility per year. We conclude these costs are relatively low and will prevent significant releases of fugitive dust emissions. Furthermore, we have not identified any significant non-air environmental impacts and energy requirements. These measures are therefore considered to be cost effective.

h. Summary

In summary, the EPA is proposing revised Pb emission limits for grid casting and lead reclamation (for all facilities), and a revised limit for paste mixing (for large facilities only), under a new NSPS subpart (KKa) for LAB facilities that begin construction, reconstruction, or modification after **[INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER]**. In addition, the EPA is proposing the following amendments under the new NSPS subpart KKa (for lead acid battery facilities that begin construction, reconstruction or modification after **[INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER]**): performance testing once every 5 years to demonstrate compliance; work practices to minimize emissions of fugitive lead dust; increased inspection frequency of fabric filters; bag leak detection systems for large facilities; electronic reporting of performance test results and semiannual compliance reports; and proposing that the standards will apply at all times including periods of SSM. As explained above, we are proposing the revised limits and work practice standards because we conclude that these proposed standards are cost effective, and we have not identified any significant non-air environmental impacts and energy requirements. Furthermore, we are proposing the improved monitoring requirements for fabric filters and scrubbers (described above) and periodic testing requirement of once every 5 years because these measures will help ensure continued compliance and detect problems early on so that damaged fabric filters can be quickly inspected and repaired as needed. These proposed standards and other requirements (for 40 CFR part 60, subpart KKa) would apply to lead acid battery manufacturing facilities that commence construction, reconstruction, or modification after **[INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

C. What are the results and proposed decisions based on our technology review, and what is the rationale for those decisions?

As described in section III.B of this preamble, the technology review for the area source NESHAP for lead acid battery manufacturing focused on the identification and evaluation of

potential developments in practices, processes, and control technologies that have occurred since the NESHAP was promulgated in 2007. In conducting the technology review, we reviewed various information sources regarding the emissions from lead acid battery manufacturing operations and other relevant information such as control technologies applied, work practices used, processes, and monitoring approaches. Through searches of these data sources, several developments in practices, processes, or control technologies were identified, evaluated and considered. As discussed below, these include developments and improvements that could affect the level of one or more of the emissions limits or result in the addition of work practice standards and/or revised compliance assurance measures. Based on this review and evaluations, the EPA is proposing the following amendments to 40 CFR part 63, subpart PPPPPP pursuant to CAA section 112(d):

- A revised Pb emission limit for grid casting operations and lead reclamation to reflect developments in technology;
- A revised Pb emission limit for paste mixing operations at large facilities to reflect developments in technology;
- Improved monitoring of emission points controlled by fabric filters and scrubbers;
- Bag leak detection systems for large facilities;
- Performance testing requirements; and
- Work practices to minimize fugitive dust emissions.

The data, analyses, results, and proposed decisions for each of these proposed amendments pursuant to CAA section 112(d) are presented below.

a. Revised Lead Emission Limits for Grid Casting Operations and Lead Reclamation

The methodology used to analyze the use of fabric filters in the grid casting and lead reclamation processes for new, reconstructed, and modified sources is described in section IV.B.a. The data, analyses and decisions for each of these two processes at existing area source facilities is discussed in this section below.

Grid Casting Facility. As discussed in section IV.B.a above, the emission limit promulgated in the 1982 NSPS was based on an impingement scrubber with 90 percent control efficiency. In the 2007 NESHAP final rule, the EPA adopted that same limit (based on impingent scrubbers) as the limit for grid casting in the NESHAP. Based on our review of facility permits, the majority of existing area source facilities (at least 29 of the 39 facilities subject to the NESHAP) are now using fabric filters with at least 99 percent control efficiency for their grid casting emissions. Some facilities are also using secondary control devices such as a wet scrubber or HEPA filter in addition to the primary fabric filters to achieve further emissions control. Furthermore, we did not identify any facilities using only a wet scrubber. Therefore, we conclude that fabric filters are clearly feasible and well demonstrated as an appropriate control technology for grid casting operations. Based on these findings, the EPA is proposing a revised Pb emission limit in the NESHAP for new and existing grid casting facilities of 0.04 mg/dscm (0.0000175 gr/dscf) based on the use of fabric filters with at least 99 percent control efficiency. We estimate costs would be minimal to none for all existing area source facilities to comply with the new grid casting emission limit. Regarding new sources, as described in more detail in section IV.B.a, we conclude that fabric filters are a well-demonstrated and feasible control technology for grid casting and that this technology is cost effective for new, reconstructed, and modified sources.

Lead Reclamation Facility. We estimate that there are no existing facilities currently conducting lead reclamation activities as defined in the rule. However, there is some uncertainty in this conclusion because of the following data gaps: we did not have access to three facility permits; and based on our review of 37 air permits, two permits mentioned lead reclamation equipment which are controlled by fabric filters. However, it is not clear if the facilities are actively conducting lead reclamation as it is defined in the rule. As discussed in more detail in section IV.D.c. many facilities send their Pb scrap to a secondary lead smelter or remelt their on-

site scraps and use the molten Pb directly in a process instead of reforming it into an ingot for later use.

Nevertheless, based on our analysis of existing sources (presented above) and the analysis for new sources (presented in section IV.B.a), the EPA is proposing a revised Pb emission limit of 0.45 mg/dscm (0.000197 gr/dscf) for new and existing area source facilities, if they conduct lead reclamation, based on the use of fabric filters with 99 percent control efficiency. We estimate no cost impacts to existing sources due to this proposed revised limit because we did not identify any facilities currently conducting lead reclamation, and the two facilities which mention the presence of reclamation equipment in their permits already have fabric filters as the control technology for those units. Regarding new sources, as described in section IV.B,a, we conclude that it is technically feasible and cost effective for new, reconstructed, and modified facilities to control Pb emissions from lead reclamation with a fabric filter.

b. Revised Pb Emission Limit for Paste Mixing Facilities

The EPA is proposing a revised Pb emission limit of 0.1 mg/dscm (0.0000437 gr/dscf) for paste mixing facilities at new and existing large facilities. However, the EPA is proposing to retain the paste mixing facility Pb emission limit of 1 mg/dscm (0.000437 gr/dscf) for new and existing small facilities. The methodology used to analyze the use of secondary filters in the paste mixing process for new sources is described in Section IV.B.b. The data, analyses, and decisions, including the cost and cost effectiveness for existing facilities, is discussed in this section.

As mentioned in section IV.B.b, we identified 16 paste mixing facilities (40 percent of the total) that currently have secondary filters to achieve much higher control efficiency on their paste mixing operations. Capital costs for an existing small facility that currently has a fabric filter to retrofit to add a secondary HEPA filter on their paste mixing process are estimated to be

$63,000, and for an existing large facility, $149,000. Annualized costs are estimated to be $45,000 for an existing small facility and $91,000 for an existing large facility. We estimate five existing facilities would need to add these controls resulting in total industry capital costs of $745,000 and annualized costs of $455,000 and achieving 0.5 tpy reduction of Pb emissions.

The cost effectiveness for an existing small facility is $1,730,000 per ton of Pb reduced and for an existing large facility is $910,000 per ton of Pb. Detailed cost information for both facility size categories is shown in the Technology Review Memorandum.

The results of the cost analyses for existing large facilities indicate that the estimated cost effectiveness of adding a secondary HEPA filter on the paste mixing process is within the range of what the EPA has considered to be a cost-effective level of control for Pb emissions, but it is not cost effective for existing small facilities. Furthermore, we expect that smaller facilities would likely have lower annual revenues compared to the larger facilities and we assume the smaller facilities are more likely be owned by small businesses. Therefore, we expect that in general the small facilities would be more likely to experience significant economic impacts if they were required to install secondary filters on their paste mixing operations. For these reasons, we are not proposing any changes to the emissions limits for paste mixing operations at small facilities because of the costs, cost effectiveness, and potential for significant economic impacts to some small businesses.

c. Review of Other Process Units at Lead Acid Battery Manufacturing Facilities

In addition to grid casting, reclamation, and paste mixing, we also evaluated potential revisions to the emissions limits for the three-process operations and lead oxide manufacturing but did not identify any cost-effective options. Therefore, we are not proposing any changes to the emissions limits for these processes. The data and analyses regarding these operations are provided in the Technology Review Memorandum available in the docket.

d. Improved Monitoring of Emission Points Controlled by Fabric Filters and Scrubbers

The area source NESHAP requires that for emission points controlled by a fabric filter, semiannual inspections and maintenance must be conducted to ensure proper performance of the fabric filter. In addition, pressure drop or visible emission (VE) observations must be conducted for the fabric filter daily (or weekly if the fabric filter has a secondary HEPA filter) to ensure the fabric filter is functioning properly. To reduce the likelihood of malfunctions that result in excess lead emissions, the EPA is proposing to increase the frequency of fabric filter inspections and maintenance operations to monthly for units that do not have a secondary filter and retain the requirement for semi-annual inspections for units that do have a secondary filter.

Due to state and local permitting conditions, some facilities already are required to perform additional inspections to ensure equipment is functioning properly. This includes performing inspections of the fabric filter on a more frequent basis, ranging from weekly to quarterly, and includes performing inspections of additional equipment, such as dust collection hoppers and conveyance systems. We consider these more stringent inspection requirements to be a development in operational procedures that would help ensure continued compliance by identifying and correcting problems earlier.

Through the permit review, we also found that several plants have requirements to keep replacement fabric filters onsite. The area source NESHAP does not include requirements to keep replacement filters or other materials onsite. While not elaborated on in the permits, these requirements would ensure that when any issue or damage is noted with a fabric filter, a timely replacement of the filter can be performed to ensure the control device functions as intended. Such requirements also prevent unnecessary delays with fabric filter repairs and minimize the duration that processes would continue to operate with higher emissions until a replacement filter can be obtained. These requirements would also ensure that any shutdown of the processes would be minimized as the replacement parts would be readily available for the repair to be completed.

The EPA is proposing that inspections of emission points with fabric filters that are not followed by a secondary filter must be conducted monthly instead of semi-annually. For units with a secondary filter the EPA proposes to retain the requirement for semi-annual inspections. We are also proposing to require all facilities to have replacement filters on hand in case filters are damaged, and we are proposing that large facilities must also have replacement secondary filters on hand for the paste mixing process control devices. We estimate that capital costs for replacement primary filters are less than $100 per filter and replacement secondary filters are $350 per filter depending on the specifications of the equipment. There are no new additional annual costs (compared to the current NESHAP) because in the event a filter needed to be replaced, facilities would incur those costs regardless of this requirement. Even though there is an upfront cost to keep these replacement filters on hand, we estimate there would be no change in net costs over time associated with this requirement because the replacement filters would eventually be needed regardless of whether they are already onsite. We estimate costs for the additional inspections will vary depending on the number of emission sources controlled with fabric filters that do not have secondary filters. Based on our estimation, each additional inspection would cost approximately $200.

As discussed in section IV.B.*d*, standard monitoring of scrubbing systems include measuring liquid flow rate across the scrubbing system. We propose to add a requirement to measure and record the liquid flow rate across each scrubbing system (that is not followed by a fabric filter) at least once every 15 minutes in the NESHAP in addition to monitoring pressure drop across each scrubbing system. Based on our review, we only identified three facilities that have a scrubber system that is not followed by a fabric filter. Therefore, we estimate that this requirement will only impact three existing facilities. Based on our review of the operating permits for these facilities, at least one is already monitoring liquid flow rate across scrubbing systems every 15 minutes. For the other two facilities, we expect that their scrubbing systems already include the capability to measure liquid flow rate since it is a standard requirement to

ensure a scrubbing system is operating properly; therefore, we estimate these facilities will not have any capital costs to comply with this requirement but may have small unquantified increase in annual costs due to recordkeeping requirements.

e. Bag Leak Detection Systems for Large Facilities

As discussed in section IV.B.e, the EPA found several lead acid battery facilities that have bag leak detection systems. We consider the use of bag leak detection systems a development in operational procedures that will assure compliance with the area source NESHAP by identifying and correcting fabric filter failures earlier than would be indicated by the daily pressure drop monitoring or daily VE monitoring. The EPA has promulgated other recent rulemakings that have included this requirement for units that do not have a secondary filter such the 2012 Secondary Lead Smelting NESHAP amendments (77 FR 3, 556, January 5, 2012).

The EPA is proposing that new and existing large facilities that do not have secondary filters must install and operate bag leak detection systems to ensure continuous compliance with the NESHAP and detect problems early. Capital costs are estimated to be $68,000 per baghouse and annual costs are estimated to be $14,000 per baghouse. We estimate that there are approximately 13 large facilities in the source category, and that 8 of these large facilities will need to add bag leak detection systems. The other 5 facilities either already have a bag leak detection system or already have secondary HEPA filters. Capital costs for the 13 facilities are estimated to be in the range of $0 (for facilities that already have bag leak detection systems or secondary filters) to $816,000 per facility (for a facility that has 12 fabric filters and that currently has no bag leak detection systems or secondary filters). The estimated annual costs range from $0 to $164,000 per facility. Total capital costs for all eight facilities are estimated to be $2.5 million and total annual costs for all eight facilities are estimated to be $506,000. However, we are not proposing a requirement for small facilities because it would impose significant economic impacts on some small businesses.

f. Performance Testing

Currently, the NESHAP requires facilities to conduct an initial compliance test. As discussed in section IV.B.f, the EPA has proposed and promulgated periodic performance testing in other recent rulemakings. In this action, we are proposing a requirement to conduct compliance testing at least once every 5 years for all existing and new area sources. To reduce some of the cost burden, the EPA is proposing to allow facilities that have two or more processes and stacks that are very similar, and have the same type of control devices, to test just one stack as representative of the others as approved by the delegated authority. We are proposing that the NESHAP will include the same testing requirements that EPA is proposing under the new NSPS subpart KKa, as discussed in section IV.B.f.

Costs for existing facilities are estimated to range from $23,000 to $181,000 per facility every 5 years, depending on the total number of stacks to be tested.

g. Work Practices to Minimize Fugitive Dust Emissions

The EPA is proposing that all facilities must develop and implement a fugitive dust plan which includes at a minimum the work practices discussed in section IV.B.g. We estimate that most facilities are already doing these work practices, and that the cost burden will be mostly labor to develop and implement the dust plan. Total estimated costs range from $0 (for facilities that already have a fugitive dust plan and are implementing it) to $20,000 per facility per year.

D. What other actions are we proposing, and what is the rationale for those actions?

1. NSPS, 40 CFR Part 60, Subpart KKa

In addition to the proposed actions described above, we are proposing additional revisions to the NSPS KK as part of the new proposed subpart KKa. We are proposing that emission limits and opacity limits will apply at all times, including during startup, shutdown, and malfunction (SSM) in order to ensure that the limits are consistent with the decision in *Sierra Club v. EPA*, 551 F. 3d 1019 (D.C. Cir. 2008). We also are proposing to require electronic reporting for performance tests and semiannual excess emissions and continuous monitoring

reports, and a clarification to the definition of "lead reclamation." Our analyses and proposed changes related to these issues are discussed below.

a. Proposal of NSPS Subpart KKa Without Startup, Shutdown, Malfunction Exemptions

In its 2008 decision in *Sierra Club v. EPA*, 551 F.3d 1019 (D.C. Cir. 2008), the United States Court of Appeals for the District of Columbia Circuit (D.C. Circuit) vacated portions of two provisions in the EPA's CAA section 112 regulations governing the emissions of HAP during periods of SSM. Specifically, the Court vacated the SSM exemption contained in 40 CFR 63.6(f)(1) and 40 CFR 63.6(h)(1), holding that under section 302(k) of the CAA, emissions standards or limitations must be continuous in nature and that the SSM exemption violates the CAA's requirement that some section 112 standards apply continuously. Consistent with *Sierra Club v. EPA*, we are proposing standards in this rule that apply at all times. The NSPS general provisions in 40 CFR 60.11 (c) currently exclude opacity requirements during periods of startup, shutdown, and malfunction and the provision in 40 CFR 60.8(c) contains an exemption from non-opacity standards. We are proposing in subpart KKa specific requirements at section 60.372a(a) that override the general provisions for SSM. We are proposing that all standards in subpart KKa apply at all times, including the opacity limits in 40 CFR part 60.

The EPA has attempted to ensure that the general provisions we are proposing to override are inappropriate, unnecessary, or redundant in the absence of the SSM exemption. We are specifically seeking comment on whether we have successfully done so.

In proposing the standards in this rule, the EPA has taken into account startup and shutdown periods and, for the reasons explained below, has not proposed alternate standards for those periods. We discussed this issue with industry representatives and asked them if they expect any problems with the removal of the SSM exemptions. The lead acid battery manufacturing industry did not identify (and there are no data indicating) any specific problems with removing the SSM provisions. The main control devices used in this industry are fabric filters. We expect that these control devices are effective in controlling emissions during startup

and shutdown events. With regard to malfunctions, these events are described in the following paragraph.

Periods of startup, normal operations, and shutdown are all predictable and routine aspects of a source's operations. Malfunctions, in contrast, are neither predictable nor routine. Instead they are, by definition, sudden, infrequent, and not reasonably preventable failures of emissions control, process, or monitoring equipment. (40 CFR 60.2). The EPA interprets CAA section 111 as not requiring emissions that occur during periods of malfunction to be factored into development of CAA section 111 standards. Nothing in CAA section 111 or in case law requires that the EPA consider malfunctions when determining what standards of performance reflect the degree of emission limitation achievable through ''the application of the best system of emission reduction'' that the EPA determines is adequately demonstrated. While the EPA accounts for variability in setting emissions standards, nothing in section 111 requires the Agency to consider malfunctions as part of that analysis. The EPA is not required to treat a malfunction in the same manner as the type of variation in performance that occurs during routine operations of a source. A malfunction is a failure of the source to perform in a "normal or usual manner" and no statutory language compels EPA to consider such events in setting section 111 standards of performance. The EPA's approach to malfunctions in the analogous circumstances (setting "achievable" standards under section 112) has been upheld as reasonable by the D.C Circuit in *U.S. Sugar Corp. v. EPA*, 830 F.3d 579, 606-610 (D.C. Cir. 2016).

b. Electronic Reporting

The EPA is proposing that owners and operators of lead acid battery manufacturing plants subject to the NSPS at 40 CFR part 60, subpart KKa submit electronic copies of required performance test reports and the semiannual excess emissions and continuous monitoring system performance and summary reports, through the EPA's Central Data Exchange (CDX) using the Compliance and Emissions Data Reporting Interface (CEDRI). A description of the electronic data submission process is provided in the memorandum *Electronic Reporting Requirements for*

New Source Performance Standards (NSPS) and National Emission Standards for Hazardous Air Pollutants (NESHAP) Rules, available in the docket for this action. The proposed rule requires that performance test results collected using test methods that are supported by the EPA's Electronic Reporting Tool (ERT) as listed on the ERT website[6] at the time of the test be submitted in the format generated through the use of the ERT or an electronic file consistent with the xml schema on the ERT website, and other performance test results be submitted in portable document format (PDF) using the attachment module of the ERT. For the semiannual excess emissions and continuous monitoring system performance and summary reports, the proposed rule requires that owners and operators use the appropriate spreadsheet template to submit information to CEDRI. A draft version of the proposed template(s) for these reports is included in the docket for this action.[7] The EPA specifically requests comment on the content, layout, and overall design of the template(s).

Additionally, the EPA has identified two specific circumstances in which electronic reporting extensions may be provided. These circumstances are (1) Outages of the EPA's CDX or CEDRI which preclude an owner or operator from accessing the system and submitting required reports and (2) *force majeure* events, which are defined as events that will be or have been caused by circumstances beyond the control of the affected facility, its contractors, or any entity controlled by the affected facility that prevent an owner or operator from complying with the requirement to submit a report electronically. Examples of *force majeure* events are acts of nature, acts of war or terrorism, or equipment failure or safety hazards beyond the control of the facility. The EPA is providing these potential extensions to protect owners and operators from noncompliance in cases where they cannot successfully submit a report by the reporting deadline for reasons outside of their control. In both circumstances, the decision to accept the claim of

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[6] *https://www.epa.gov/electronic-reporting-air-emissions/electronic-reporting-tool-ert*

[7] See EPA Form 5900-577 *Lead_Acid_Battery_Manufacturing_Semiannual_Excess_Emissions_CMS_Performance_Report_Template.xlsx* available at Docket ID. No. EPA-HQ-OAR-2021-0619.

needing additional time to report is within the discretion of the Administrator, and reporting should occur as soon as possible.

The electronic submittal of the reports addressed in this proposed rulemaking will increase the usefulness of the data contained in those reports, is in keeping with current trends in data availability and transparency, will further assist in the protection of public health and the environment, will improve compliance by facilitating the ability of regulated facilities to demonstrate compliance with requirements and by facilitating the ability of delegated state, local, tribal, and territorial air agencies and the EPA to assess and determine compliance, and will ultimately reduce burden on regulated facilities, delegated air agencies, and the EPA. Electronic reporting also eliminates paper-based, manual processes, thereby saving time and resources, simplifying data entry, eliminating redundancies, minimizing data reporting errors, and providing data quickly and accurately to the affected facilities, air agencies, the EPA, and the public. Moreover, electronic reporting is consistent with the EPA's plan[8] to implement Executive Order 13563 and is in keeping with the EPA's Agency-wide policy[9] developed in response to the White House's Digital Government Strategy.[10] For more information on the benefits of electronic reporting, see the memorandum *Electronic Reporting Requirements for New Source Performance Standards (NSPS) and National Emission Standards for Hazardous Air Pollutants (NESHAP) Rules*, referenced earlier in this section.

c. Lead Reclamation Definition

Under the NSPS, subpart KK, a lead reclamation facility is a facility (that is not an affected secondary lead smelting furnace under 40 CFR 60, subpart L) that remelts Pb scrap and

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[8] *EPA's Final Plan for Periodic Retrospective Reviews*, August 2011. Available at: *https://www.regulations.gov/document?D=EPA-HQ-OA-2011-0156-0154*.

[9] *E-Reporting Policy Statement for EPA Regulations*, September 2013. Available at: *https://www.epa.gov/sites/production/files/2016-03/documents/epa-ereporting-policy-statement-2013-09-30.pdf*.

[10] *Digital Government: Building a 21st Century Platform to Better Serve the American People*, May 2012. Available at: *https://obamawhitehouse.archives.gov/sites/default/files/omb/egov/digital-government/digital-government.html*.

casts it into ingots for use in the battery manufacturing process. Information available to the EPA indicates that no facilities currently remelt Pb and cast it into ingots for use in the battery manufacturing processes. However, to ensure that emissions are controlled from any Pb that is recycled or reused, without being remelted and cast into ingots, the EPA is revising the definition of lead reclamation facility to clarify that the lead reclamation facility does not include recycling of any type of finished battery or recycling lead-bearing scrap that is obtained from non-category sources or from any offsite operation. Likewise, we are also proposing to clarify that recycling of any type of finished battery or recycling lead-bearing scrap that is obtained from non-category sources or from any offsite operations are prohibited at the lead acid battery facility.

In addition, the proposed revised definition clarifies that lead reclamation facilities also do not include the remelting of Pb metal scrap (such as unused grids or scraps from creating grids) from on-site lead acid battery manufacturing processes and that any such remelting is considered part of the process where the Pb is remelted and used (i.e., grid casting).

2. NESHAP, 40 CFR Part 63, Subpart PPPPPP

In addition to the proposed actions described above, we are proposing additional revisions to the NESHAP. We are proposing revisions to the startup, shutdown, and malfunction (SSM) provisions of the NESHAP in order to ensure that they are consistent with the decision in *Sierra Club v. EPA*, 551 F. 3d 1019 (D.C. Cir. 2008), in which the court vacated two provisions that exempted sources from the requirement to comply with otherwise applicable CAA section 112(d) emission standards during periods of SSM. We also are proposing various other changes including: to require electronic reporting for performance tests and semiannual excess emissions and continuous monitoring reports; a clarification to the definition of lead reclamation; and a revision to the applicability provisions to require that facilities with some of the battery production processes (e.g., grid casting or lead oxide production) are subject to the standards in the NESHAP regardless of whether or not the facility produces the end product (*i.e.,* batteries). Our analyses and proposed changes related to these issues are discussed below.

a. Startup, Shutdown and Malfunction (SSM) Provisions

In its 2008 decision in Sierra Club v. EPA, 551 F.3d 1019 (D.C. Cir. 2008), the court vacated portions of two provisions in the EPA's CAA section 112 regulations governing the emissions of HAP during periods of SSM. Specifically, the court vacated the SSM exemption contained in 40 CFR 63.6(f)(1) and 40 CFR 63.6(h)(1), holding that under section 302(k) of the CAA, emissions standards or limitations must be continuous in nature and that the SSM exemption violates the CAA's requirement that some CAA section 112 standards apply continuously.

In March 2021, the EPA issued a rule[11] that revised the General Provisions to remove the SSM exemptions at 40 CFR 63.6(f)(1) and (h)(1). In this action, we are proposing to eliminate references to these SSM exemptions in this rule and to remove other additional SSM exemptions in the rule, including any reference to requirements included in 40 CFR part 63, subpart A (General Provisions). Consistent with Sierra Club v. EPA, the standards that we are proposing in this rule apply at all times. We are also proposing several revisions to Table 1 to 40 CFR part 63, subpart PPPPPP, as is explained in more detail below.

The EPA has attempted to ensure that the provisions we are proposing to eliminate are inappropriate, unnecessary, or redundant in the absence of the SSM exemption. We are specifically seeking comment on whether we have successfully done so.

In proposing the standards in this rule, the EPA has taken into account startup and shutdown periods and, for the reasons explained in section IV.D.1.a above, has not proposed alternate standards for those periods.

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[11] U.S. EPA, *Court Vacatur of Exemption from Emission Standards During Periods of Startup, Shutdown, and Malfunction*. (86 FR 13819, March 11, 2021).

Periods of startup, normal operations, and shutdown are all predictable and routine aspects of a source's operations. Malfunctions, in contrast, are neither predictable nor routine. Instead, they are, by definition, sudden, infrequent, and not reasonably preventable failures of an emissions control, process, or monitoring equipment. (40 CFR 63.2, Definition of malfunction). The EPA interprets CAA section 112 as not requiring emissions that occur during periods of malfunction to be factored into development of CAA section 112 standards, and this reading has been upheld as reasonable by the court. See U.S. Sugar Corp. v. EPA, 830 F.3d 579, 606–610 (D.C. Cir. 2016). Under CAA section 112, emissions standards for new sources must be no less stringent than the level "achieved" by the best controlled similar source and for existing sources generally must be no less stringent than the average emission limitation "achieved" by the best performing 12 percent of sources in the category. There is nothing in CAA section 112 that directs the Agency to consider malfunctions in determining the level "achieved" by the best performing sources when setting emission standards. The court has recognized that the phrase "average emissions limitation achieved by the best performing 12 percent of" sources "says nothing about how the performance of the best units is to be calculated." Nat'l Ass'n of Clean Water Agencies v. EPA, 734 F.3d 1115, 1141 (D.C. Cir. 2013). While the EPA accounts for variability in setting emissions standards, nothing in CAA section 112 requires the Agency to consider malfunctions as part of that analysis. The EPA is not required to treat a malfunction in the same manner as the type of variation in performance that occurs during routine operations of a source. A malfunction is a failure of the source to perform in a "normal or usual manner" and no statutory language compels the EPA to consider such events in setting CAA section 112 standards. Similarly, although standards for area sources are not required to be set based on "best performers," EPA is not required to consider malfunctions in determining what is "generally available."

In the March 2021 rule, the EPA removed the SSM exemptions at 40 CFR 63.6(f)(1) and (h)(1) to effectuate the 2008 court decision vacating these provisions. In this action, we are

changing the applicability of these two general provisions from a "yes" to "no" and adding rule-specific language to ensure the rule applies as all times. We are proposing to revise the General Provisions table (Table 3) entry for the citation to 40 CFR 63.6(a)-(d), (e)(1), (f)-(j) by changing the citation to reference only 40 CFR 63.6(a)-(d). We are also proposing to add a row for 40 CFR 63.6(e)(1)(i) and including a "no" for this entry in column 3, "Applies to Subpart PPPPPP?" Section 63.6(e)(1)(i) describes the general duty to minimize emissions. Some of the language in that section is no longer necessary or appropriate in light of the elimination of the SSM exemption. We are proposing instead to add general duty regulatory text at 40 CFR 63.11423(a)(3) that reflects the general duty to minimize emissions while eliminating the reference to periods covered by an SSM exemption. The current language in 40 CFR 63.6(e)(1)(i) characterizes what the general duty entails during periods of SSM. With the elimination of the SSM exemption, there is no need to differentiate between normal operations, startup and shutdown, and malfunction events in describing the general duty. Therefore, the language the EPA is proposing for 40 CFR part 60, subpart PPPPPP does not include that language from 40 CFR 63.6(e)(1).

We are also proposing to add a row to the General Provisions table (Table 3) for 40 CFR 63.6(e)(1)(ii) and including a "no" for this entry in column 3. Section 63.6(e)(1)(ii) imposes requirements that are not necessary with the elimination of the SSM exemption or are redundant with the general duty requirement being added at 40 CFR 63.11423(a)(3).

We are also proposing to add a row to the General Provisions table (Table 3) for 40 CFR 63.6(e)(1)(iii) and including a "yes" for this entry in column 3.

While the provision at 40 CFR 63.6(f)(1) was revised in March 2021, this action proposes to add a row to the General Provisions table (Table 3) for 40 CFR 63.6(f)(1) and including a "no" for this entry in column 3. The language of 40 CFR 63.6(f)(1) no longer exempts sources from non-opacity standards during periods of SSM, however, for clarity this action will no longer reference the General Provisions for this provision. As discussed above, the

court in Sierra Club vacated the exemptions previously contained in this provision and held that the CAA requires that some section 112 standard apply continuously. Consistent with Sierra Club, the EPA is clarifying that standards in this rule will apply at all times. We are also proposing to add rows to Table 3 for 40 CFR 63.6(f)(2)-(3) and 63.6(g) and including a "yes" for these entries in column 3.

Similarly, we are proposing to add a row to the General Provisions table (Table 3) for 40 CFR 63.6(h)(1) and including a "no" for this entry in column 3. The language of 40 CFR 63.6(h)(1) no longer exempts sources from opacity standards during periods of SSM, however, for clarity this action will no longer reference the General Provisions for this provision. As discussed above, the court in Sierra Club vacated the exemptions previously contained in this provision and held that the CAA requires that some section 112 standard apply continuously. Consistent with Sierra Club, the EPA is proposing to revise standards in this rule to apply at all times. We are also proposing to add a row to Table 3 for 40 CFR 63.6(h)(2)-(9), (i) and (j) and including a "yes" for this entry in column 3.

We are proposing to revise the General Provisions table (Table 3) entry for 40 CFR 63.7 by changing the citation to 40 CFR 63.7(a)-(d), (e)(2) and (3) and (f)-(j). We are also proposing to add a row to the table for 40 CFR 63.7(e)(1) and including a "no" for this entry in column 3. Section 63.7(e)(1) describes performance testing requirements. The EPA is instead proposing to add a performance testing requirement at 40 CFR 63.11423(c)(7). The performance testing requirements we are proposing to add differ from the General Provisions performance testing provisions in several respects. The regulatory text does not include the language in 40 CFR 63.7(e)(1) that restated the SSM exemption and language that precluded startup and shutdown periods from being considered "representative" for purposes of performance testing. As in 40 CFR 63.7(e)(1), performance tests conducted under this subpart should not be conducted during malfunctions because conditions during malfunctions are often not representative of normal operating conditions. The EPA is proposing to add language that requires the owner or operator

to record the process information that is necessary to document operating conditions during the test and include in such record an explanation to support that such conditions represent normal operation. Section 63.7(e) requires that the owner or operator make available to the Administrator such records "as may be necessary to determine the condition of the performance test" available to the Administrator upon request but does not specifically require the information to be recorded. The regulatory text the EPA is proposing to add to this provision builds on that requirement and makes explicit the requirement to record the information.

We are proposing to revise the General Provisions table (Table 3) entry for 40 CFR 63.8 by changing the citation to 40 CFR 63.8(a), (b), (c)(1)(ii), (d)(1) and (2), (e)-(g). We are also proposing to add rows to the table for 40 CFR 63.8(c)(1)(i) and (iii) and including a "no" for these entries in column 3. The cross-references to the general duty and SSM plan requirements in those subparagraphs are not necessary in light of other requirements of 40 CFR 63.8 that require good air pollution control practices (40 CFR 63.8(c)(1)) and that set out the requirements of a quality control program for monitoring equipment (40 CFR 63.8(d)).

We are proposing to add a row to the General Provisions table (Table 3) for 40 CFR 63.8(d)(3) and including a "no" for this entry in column 3. The final sentence in 40 CFR 63.8(d)(3) refers to the General Provisions' SSM plan requirement which is no longer applicable. The EPA is proposing to add to the rule at 40 CFR 63.11423(e)(3) text that is identical to 40 CFR 63.8(d)(3) except that the final sentence is replaced with the following sentence: "The program of corrective action should be included in the plan required under §63.8(d)(2)."

We are proposing to revise the General Provisions table (Table 3) entry for 40 CFR 63.10 by changing the citation to 40 CFR 63.10(a), (b)(1), (b)(2)(iii), (vi-ix), (b)(3), (c)(1)–(14), (d)(1)–(4), (e), (f). We are also proposing to add a row to the table for 40 CFR 63.10(b)(2)(i) and including a "no" for this entry in column 3. Section 63.10(b)(2)(i) describes the recordkeeping requirements during startup and shutdown. These recording provisions are no longer necessary because the EPA is proposing that recordkeeping and reporting applicable to normal operations

will apply to startup and shutdown. In the absence of special provisions applicable to startup and shutdown, such as a startup and shutdown plan, there is no reason to retain additional recordkeeping for startup and shutdown periods.

We are proposing to add a row to the General Provisions table (Table 3) for 40 CFR 63.10(b)(2)(ii) and including a "no" for this entry in column 3. Section 63.10(b)(2)(ii) describes the recordkeeping requirements during a malfunction. The EPA is proposing to add such requirements to 40 CFR 63.11424(a)(6). The regulatory text we are proposing to add differs from the General Provisions it is replacing in that the General Provisions requires the creation and retention of a record of the occurrence and duration of each malfunction of process, air pollution control, and monitoring equipment. The EPA is proposing that this requirement apply to any failure to meet an applicable standard and is requiring that the source record the date, time, and duration of the failure rather than the "occurrence." The EPA is also proposing to add to 40 CFR 63.11424(a)(7)(ii) and (iii) a requirement that sources keep records that include a list of the affected source or equipment and actions taken to minimize emissions, an estimate of the quantity of each regulated pollutant emitted over the standard for which the source failed to meet the standard, and a description of the method used to estimate the emissions. Examples of such methods would include product-loss calculations, mass balance calculations, measurements when available, or engineering judgment based on known process parameters. The EPA is proposing to require that sources keep records of this information to ensure that there is adequate information to allow the EPA to determine the severity of any failure to meet a standard, and to provide data that may document how the source met the general duty to minimize emissions when the source has failed to meet an applicable standard.

We are proposing to add a row to the General Provisions table (Table 3) for 40 CFR 63.10(b)(2)(iv) and (v) and including a "no" for this entry in column 3. When applicable, these provisions require sources to record actions taken during SSM events when actions were inconsistent with their SSM plan or to show that actions taken were consistent with their SSM

plan. These requirements are no longer appropriate because SSM plans will no longer be required. The requirement previously applicable under 40 CFR 63.10(b)(2)(iv)(B) to record actions to minimize emissions and record corrective actions is now applicable by reference to 40 CFR 63.11424(a)(7).

We are proposing to add a row to the General Provisions table (Table 3) for 40 CFR 63.10(c)(15) and including a "no" for this entry in column 3. The EPA is proposing that 40 CFR 63.10(c)(15) no longer apply. When applicable, the provision allows an owner or operator to use the affected source's startup, shutdown, and malfunction plan or records kept to satisfy the recordkeeping requirements of the startup, shutdown, and malfunction plan, specified in 40 CFR 63.6(e), to also satisfy the requirements of 40 CFR 63.10(c)(10) through (12). The EPA is proposing to eliminate this requirement because SSM plans would no longer be required, and therefore 40 CFR 63.10(c)(15) no longer serves any useful purpose for affected units.

b. Electronic Reporting.

The EPA is proposing that owners and operators of lead acid battery manufacturing facilities subject to the area source NESHAP at 40 CFR part 63, subpart PPPPPP submit electronic copies of required performance test reports and semiannual excess emissions and continuous monitoring system performance and summary reports through the same procedures described above in section IV.D.b for the new NSPS subpart KKa.

c. Lead Reclamation Definition Clarification

The NESHAP references 40 CFR part 60, subpart KK for the definition of a lead reclamation facility. The NSPS KK defines lead reclamation as a facility (that is not an affected secondary lead smelting furnace under 40 CFR 60, subpart L) that remelts Pb scrap and casts it into ingots for use in the battery manufacturing process. As discussed in Section IV.D.c, information available to the EPA indicates that no facilities currently remelt Pb and cast it into ingots for use in the battery manufacturing processes. However, to ensure that emissions are controlled from any Pb that is recycled or reused, without being remelted and cast into ingots, the

EPA is revising the definition of lead reclamation facility to clarify that the lead reclamation facility does not include recycling of any type of finished battery or recycling lead-bearing scrap that is obtained from non-category sources or from any offsite operation. We are also proposing to clarify that recycling of any type of finished battery or recycling lead-bearing scrap that is obtained from non-category sources or from any offsite operation are prohibited at the lead acid battery facility. In addition, the proposed revised definition clarifies that lead reclamation facilities also do not include the remelting of Pb metal scrap (such as unused grids or scraps from creating grids) from on-site lead acid battery manufacturing processes and that any such remelting is considered part of the process where the Pb is remelted and used (i.e., grid casting).

d. Expanded Facility Applicability

The original definition of the lead acid battery manufacturing source category stated that lead acid battery manufacturing facilities include any facility engaged in producing lead acid batteries. It also explained that the category includes, but is not limited to, the following manufacturing steps: lead oxide production, grid casting, paste mixing, and three-process operation (plate stacking, burning, and assembly). The EPA is aware of some facilities that conduct one or more of the lead acid battery manufacturing processes but do not produce the final product of a battery, and thus are not considered to be in the lead acid battery source category, and those processes are not subject to the lead acid battery NESHAP. To ensure these processes utilizing Pb are regulated to the same extent as those that are located at facilities where the final battery products are produced, the EPA is proposing to revise the applicability provisions in the NESHAP such that facilities that process Pb to manufacture battery parts (such as battery grids) or input material (such as lead oxide) will be subject to the NESHAP regardless of whether or not they produce the end product (i.e., lead acid batteries). The source category definition is broad enough that the EPA determined it can encompass these facilities. Available permit information indicates that lead acid battery manufacturing processes being conducted at facilities other than where the final batteries are made indicates that Pb emissions from the

processes are controlled and that those facilities can meet the emissions limits in the NESHAP. However, these facilities will also need to meet the compliance assurance measures of the proposed NESHAP, including improved monitoring of emission points with fabric filters, performance testing, reporting, and recordkeeping, as well as comply with the proposed fugitive dust mitigation plan requirements. Therefore, we expect there will be some cost impacts for these facilities to comply with these compliance assurance measures and work practices. We estimate the costs for compliance testing will be $23,000 to $34,000 per facility once every 5 years; and annual costs for fugitive dust work practices of $0 to $13,000 per facility.

E. What compliance dates are we proposing, and what is the rationale for the proposed compliance dates?

a. NSPS, 40 CFR Part 60, Subpart KKa

The final action for the NSPS is not expected to be a "major rule" as defined by 5 U.S.C. 804(2), so the effective date of the final rule will be the promulgation date as specified in CAA section 111(b)(1)(B)). Affected sources that commence construction, reconstruction, or modification after **[INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER]**, must comply with all requirements of subpart KKa no later than the effective date of the final rule or upon startup, whichever is later.

b. NESHAP, 40 CFR Part 63, Subpart PPPPPP

The final action for the NESHAP is not expected to be a "major rule" as defined by 5 U.S.C. 804(2), so the effective date of the final rule will be the promulgation date as specified in CAA section 112(d)(10). Affected sources that commence construction or reconstruction after **[INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER]**, must comply with all requirements of subpart PPPPPP, including the final amendments, no later than the effective date of the final rule or upon startup, whichever is later. Affected sources that commenced construction or reconstruction on or before **[INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER]**, must comply with certain amendments, as specified below, no later than 180 days after the effective date of the final rule and other amendments, as specified below,

no later than 3 years after the effective date of the rule, or upon startup, whichever is later. All affected facilities would have to continue to meet the current requirements of 40 CFR part 63, subpart PPPPPP, until the applicable compliance date of the amended standards.

For the following proposed revisions, for existing facilities we are proposing a compliance date of no later than 180 days after the effective date of the final rule: clarifications to the definition of lead reclamation; requirements for electronic reporting of performance test results and semiannual excess emissions and continuous monitoring system performance and summary reports; removal of the SSM exemptions; revisions to the applicability provisions to include battery production processes at facilities that do not produce the final end product (i.e., batteries); and increased baghouse inspection frequency. Data available to the EPA indicates that facilities are not performing lead reclamation activities, and therefore the proposed clarification to the definition of lead reclamation facility will not impact any operating facilities. Therefore, we propose that no additional time is required for facilities to comply with the revised definition of lead reclamation. Regarding electronic reporting, our experience with similar industries that are required to convert reporting mechanisms to install necessary hardware and software, become familiar with the process of submitting performance test results electronically through the EPA's CEDRI, test these new electronic submission capabilities, and reliably employ electronic reporting shows that a time period of a minimum of 90 days, and, more typically, 180 days, is generally necessary to accomplish these revisions. For the proposed revised SSM revisions, since SSM plans have not been required to be developed or followed, we do not believe that any additional time beyond the 180 days is needed for compliance with the proposed removal of the SSM exemption. For the revisions to the applicability provisions to include battery production processes at facilities that do not produce the final end product of batteries, available information indicates that these facilities can meet the emission limits with their current controls and compliance assurance measures required by the NESHAP. While these facilities will be newly required to perform the recordkeeping and reporting required by the rule, the EPA

is proposing that 180 days is sufficient time to review the recordkeeping and reporting requirements, develop systems, and perform training for gathering, submitting, and maintaining the required information. Similarly, the EPA has determined that facilities would not need additional time to meet the proposed requirement to perform baghouse inspections more frequently. These facilities already perform the inspections and are familiar with the inspection requirements, and they will simply need to perform the inspections more often (monthly rather than semi-annually).

For the following proposed revisions, we are proposing a compliance date of 3 years after the publication date of the final rule: requirements to develop and follow a fugitive dust mitigation plan and requirements that performance testing be conducted at least once every 5 years. For fugitive dust mitigation, we are proposing to require facilities to develop a mitigation plan, submit it for approval to their air permitting authority, and follow the outlined procedures within 3 years of publication of the final rule. The EPA anticipates it would take approximately six months to develop a sound plan and another six months for the relevant permitting authority to review and approve the plan, with the potential for several revisions to the plan being required. The implementation phase will involve training and may involve specialized equipment or building and landscape changes (e.g., road paving) to accomplish the plan elements. The EPA anticipates this phase could take 1 to 2 years, depending on the approved plan elements. Therefore, the proposed compliance date for compliance with the fugitive dust mitigation plan is 3 years. For the revised emissions limits for existing paste mixing at large facilities and revised numeric limits for grid casting and lead reclamation processes, we are proposing a compliance date of no later than 3 years after the effective date of the final rule. Facilities must also demonstrate compliance with the revised numeric emissions limits for existing paste mixing, grid casting, and lead reclamation processes within this 3-year period. For the repeat performance tests, the requirement to test each required emissions outlet (i.e., stack) will involve testing many stacks at each facility, as the average facility has 8 stacks, with an industry-wide range of 1 to 33

stacks. To coordinate the testing and to provide flexibility to the industry to have stack testing performed over time, rather than all at once, which will also help ensure the appropriate testing vendors are available to the facilities in the source category, we are proposing a compliance date for the initial test of 3 years. For large facilities with fabric filters as a control device without a secondary filter, a bag leak detection system is required no later than 3 years after the effective date of the final rule.

We solicit comment on the proposed compliance periods, and we specifically request submission of information from sources in this source category regarding specific actions that would need to be undertaken to comply with the proposed amended requirements and the time needed to make the adjustments for compliance with any of the revised requirements. We note that information provided may result in changes to the proposed compliance dates.

V. Summary of Cost, Environmental, and Economic Impacts

A. What are the air quality impacts?

1. NSPS, 40 CFR Part 60, Subpart KKa

We are not expecting any new facilities to be built in the foreseeable future, but if any new facilities are built the proposed requirements in the new NSPS subpart KKa, would achieve an estimated 0.08 tpy reduction of allowable lead emissions for a small facility and an estimated 0.32 tpy reduction of allowable lead emissions for a large facility compared to that of the current NSPS subpart KK.

2. NESHAP, 40 CFR Part 63, Subpart PPPPPP

The proposed revised Pb emission standard for paste mixing operations at large lead acid battery sources in this action would achieve an estimated 0.5 tpy reduction of Pb emissions. In addition, the Agency is also proposing work practices to minimize fugitive lead dust emissions

and expects that these will achieve some unquantified Pb reductions. We are also proposing several compliance assurance requirements which will ensure compliance with the NESHAP and help prevent noncompliant emissions of Pb. Furthermore, the Agency is proposing revised Pb emission standards for grid casting and lead reclamation facilities. The EPA does not expect to achieve reductions in actual emissions with these two new standards; however, the new standards will reduce the allowable emissions from those sources and ensure that the emissions remain controlled and minimized moving forward. As described above, we estimate that all facilities in the source category are already meeting the revised emissions limits. The proposed amendments will also include removal of the SSM exemptions. We were unable to quantify the emissions that occur during periods of SSM or the specific emissions reductions that would occur as a result of this action. However, eliminating the SSM exemption has the potential to reduce emissions by requiring facilities to meet the applicable standard during SSM periods.

B. What are the cost impacts?

1. NSPS, 40 CFR Part 60, Subpart KKa

The costs for a new, reconstructed, and modified facility to comply with the proposed regulatory requirements discussed above are described in detail in section IV.B and are summarized below. As mentioned previously in this preamble we do not expect any brand-new facilities in the foreseeable future. Therefore, the actual costs for new sources are expected to be zero since we do not expect any such sources. However, we do expect that some existing facilities could undergo modifications or reconstruction.

Revised Emission Limit for Grid Casting: Incremental capital costs for a small new, reconstructed, and modified source to install and operate a fabric filter (BSER) compared to an impingement scrubber (baseline) on grid casting operations are $53,000, with incremental annual costs estimated to be $23,600. Incremental capital costs for a large new, reconstructed, and modified baseline facility to install and operate fabric filters (BSER) compared to impingement

scrubbers (baseline) on grid casting operations are estimated to be $86,000 with incremental annual costs estimated to be $40,000.

Revised Emission Limit for Lead Reclamation: Incremental capital costs are estimated to be $17,000 for small and large new, reconstructed, and modified sources to install fabric filters (BSER) compared to impingement scrubbers (baseline) on lead reclamation operations. Incremental annual costs for a small baseline facility to install fabric filters (BSER) compared to impingement scrubbers (baseline) are estimated to be $8,500. Incremental annual costs are estimated to be $13,000 for a large baseline and model facility.

Revised Emission Limit for Paste Mixing Operations: Capital Costs for a new large facility to include secondary filters in their facility design are $135,000. Annual costs are estimated to be $88,800 for a large facility.

Bag Leak Detection Requirements: For a new large facility to install and operate bag leak detection systems, capital costs would be approximately $802,000 per facility and annual costs would be approximately $161,000 per facility.

Performance Testing Requirements: We estimate that performance testing for lead costs about $23,000 to test one stack and an additional $5,500 to test each additional stack during the same testing event.

Work Practices to Minimize Fugitive Lead Dust: Estimated initial costs for new facilities to develop a fugitive dust plan to minimize fugitive lead dust emissions is $7,600 and annual costs to implement to plan are approximately $13,000 per facility per year.

2. NESHAP, 40 CFR Part 63, Subpart PPPPPP

The estimated costs for a theoretical new source to comply with the NESHAP are the same as the costs described above (in section V.B.1) under the NSPS KKa. The costs for compliance testing for existing sources are estimated to be $0 to $181,000 per facility once every 5 years depending on number of stacks (equates to an average annual cost of about $0 to $36,000 per facility). Total costs for testing for the entire industry are estimated to be $1.3 million every 5

years (which equates to an average annual cost of $260,000 per year for the entire industry). Table 1 below shows the estimated costs and number of facilities affected for all other proposed changes.

Table 1. Estimated Costs for All Proposed Amendments Other Than Compliance Testing

Proposed Requirement	Total Capital Costs for the Industry	Total Annual Costs for the Industry	Number of Facilities Impacted	Capital Costs per Facility	Annual Costs per Facility
Work Practices	$350,000[a]	$381,000	45[b]	$7,600[a]	$0 to $12,600
Fabric Filter Inspections	$0	$72,000	21	$0	$0 to $10,500
Bag Leak Detection System Requirements	$2,700,000	$544,000	10	$0 to $814,000	$0 to $164,000
Revised Limit for Paste Mixing	$750,000	$345,000	5	$150,000	$69,000
Total for all proposed requirements other than testing	$3,800,000	$1,340,000	45[b]	$0 to $996,000	$0 to $294,000

[a] These are initial costs to create a fugitive dust plan. Total estimated costs to industry would be $350,000, or approximately $7,600 per facility.
[b] This "45" includes 39 LAB NESHAP Manufacturing facilities and six facilities affected by the proposed applicability clarification described above.

C. What are the economic impacts?

The EPA conducted economic impact analyses for this proposal, as detailed in the memorandum, *Economic Impact and Small Business Analysis for the Lead Acid Battery Manufacturing NSPS Review and NESHAP Area Source Technology Review,* which is available in the docket for this action. The economic impacts of the proposal are calculated as the percentage of total annualized costs incurred by affected ultimate parent owners to their revenues. This ratio provides a measure of the direct economic impact to ultimate parent owners of facilities while presuming no impact on consumers. We estimate that none of the ultimate parent owners affected by this proposal will incur total annualized costs of 0.5 percent or greater of their revenues. Thus, these economic impacts are low for affected companies and the industries impacted by this proposal, and there will not be substantial impacts on the markets for

affected products. The costs of the proposal are not expected to result in a significant market impact, regardless of whether they are passed on to the purchaser or absorbed by the firms.

D. What are the benefits?

1. NSPS, 40 CFR Part 60, Subpart KKa

The new standards for grid casting, lead reclamation and paste mixing will reduce the allowable emissions from the new, reconstructed, and modified sources and ensure that the emissions remain controlled and minimized moving forward.

2. NESHAP, 40 CFR Part 63, Subpart PPPPPP

As described above, the proposed amendments would result in some reductions in emissions of Pb. The proposed amendments also revise the standards such that they apply at all times, which includes SSM periods. We are also proposing several compliance assurance requirements which will ensure compliance with the NESHAP and help prevent noncompliant emissions of Pb. Furthermore, the proposed requirements to submit reports and test results electronically will improve monitoring, compliance, and implementation of the rule.

Reducing emissions of lead dust is expected to reduce potential exposures to nearby communities. A quantitative analysis would be technically complicated, resource intensive and infeasible to perform in the time available. For these reasons, we did not perform a quantitative analysis. Rather, we qualitatively characterize the health impacts of lead to convey an understanding of potential benefits. This is presented in *Economic Impact and Small Business Analysis for the Lead Acid Battery Manufacturing NSPS Review and NESHAP Area Source Technology Review*, which is available in the docket for this action.

E. What analysis of environmental justice did we conduct?

Executive Order 12898 and EPA policy direct the EPA, to the greatest extent practicable and permitted by law, to make environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies and activities on minority populations (people of color) and

low-income populations (59 FR 7629, February 16, 1994). Additionally, Executive Order 13985 was signed to advance racial equity and support underserved communities through Federal government actions (86 FR 7009, January 20, 2021). The EPA defines environmental justice as the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. The EPA further defines the term fair treatment to mean that "no group of people should bear a disproportionate burden of environmental harms and risks, including those resulting from the negative environmental consequences of industrial, governmental, and commercial operations or programs and policies" (*https://www.epa.gov/environmentaljustice*). In recognizing that people of color and low-income populations often bear an unequal burden of environmental harms and risks, the EPA continues to consider ways of protecting them from adverse public health and environmental effects of air pollution.

To examine the potential for any environmental justice issues that might be associated with the source category, we performed a demographic analysis which is an assessment of individual demographic groups of the populations living within 5 km and within 50 km of the facilities. The EPA then compared the data from this analysis to the national average for the demographic indicators. Based on that analysis, we found that the demographic profile within 5 km and 50 km of the LAB facilities shows the following groups above the national average: Hispanics, Ages 18-64, People living below the Poverty Level, 25 years old or greater without a High School Diploma, and People living in Linguistic Isolation, as shown in Table 2.
The methodology and results of the demographic analysis are presented in more detail in the memorandum, which is available in the docket, *Analysis of Demographic Factors for Populations Living Near Lead Acid Battery Manufacturing Area Sources.*

Table 2. Lead Acid Battery Manufacturing Area Sources:
Proximity Demographic Assessment Results – 5 km and 50 km Study Area Radius

		Population within 50 km of 39 Facilities	Population within 5 km of 39 Facilities
	Nationwide	**Source Category**	
Total Population	328,016,242	47,907,121	2,233,864
	White and People of Color by Percent		
White	60%	52%	37%
People of Color	40%	48%	63%
	People of Color by Percent		
African American	12%	12%	10%
Native American	0.7%	0.3%	0.2%
Hispanic or Latino (includes white and nonwhite)	19%	25%	43%
Other and Multiracial	8%	11%	9%
	Income by Percent		
Below Poverty Level	13%	12%	14%
Above Poverty Level	87%	88%	86%
	Age Groups by Percent		
Age (Years) 0 – 17	22%	22%	23%
Age (Years) 18 – 64	62%	63%	64%
Age (Years) >= 65	16%	15%	13%
	Education by Percent		
Over 25 and without a High School Diploma	12%	14%	19%
Over 25 and with a High School Diploma	88%	86%	81%
	Linguistically Isolated by Percent		
Linguistically Isolated	5%	7%	9%

As explained in section IV.A, ambient air quality monitoring data and modeling analyses indicate that ambient Pb concentrations near the facilities are all below the NAAQS for Pb. The CAA identifies two types of NAAQS; primary and secondary standards. Primary standards provide public health protection, including protecting the health of "sensitive" populations such as asthmatics, children, and the elderly. Secondary standards provide public welfare protection including protection against decreased visibility and damage to animals, crops, vegetation, and

buildings.[12] Both the primary and secondary NAAQS for Pb are 0.15 $\mu g/m^3$ based on a 3-month rolling average. The primary NAAQS are designed to protect public health with an adequate margin of safety.[13] Therefore, we conclude that the emissions from lead acid battery area source facilities are not likely to pose significant risks or impacts to human health if facilities are complying with the NESHAP.

VI. Request for Comments

We solicit comments on this proposed action. In addition to general comments on this proposed action, we are also interested in additional data that may improve the analyses. We are specifically interested in receiving any information regarding developments in practices, processes, and control technologies that reduce Pb emissions.

VII. Incorporation by Reference

The EPA proposes to amend the 40 CFR 60.17 to incorporate by reference for one VCS

- ASTM D7520-16, Standard Test Method for Determining the Opacity of a Plume in the Outdoor Ambient Atmosphere, approved April 1, 2016, IBR requested for 40 CFR 60.374a(d)(2). This method is an acceptable alternative to the EPA's Method 9 under specific conditions stated in 40 CFR 60.374a(d)(2)(I) through (v). This test method described the procedures to use the Digital Camera Opacity Techniques (DCOT) to obtain and interpret the digital images in determining and reporting plume opacity. It also describes procedures to certify the DCOT.

The EPA proposes to amend the 40 CFR 63.14 to incorporate by reference for one VCS

- ASTM D7520-16, Standard Test Method for Determining the Opacity of a Plume in the Outdoor Ambient Atmosphere, approved April 1, 2016, IBR requested for 40 CFR 63.11423(c)(4)(ii). This method is an acceptable alternative to the EPA's Method 9 under specific conditions stated in 40 CFR 63.11423(c)(4)(ii)(A) through

[12] *https://www.epa.gov/criteria-air-pollutants/naaqs-table*
[13] *https://www.epa.gov/naaqs*

(E). This test method described the procedures to use the Digital Camera Opacity Techniques (DCOT) to obtain and interpret the digital images in determining and reporting plume opacity. It also describes procedures to certify the DCOT.

The ASTM documents are available from the American Society of Testing and Materials (ASTM) at *https://www.astm.org*; by mail at 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959; or by telephone at (610)832-9500.

VIII. Statutory and Executive Order Reviews

Additional information about these statutes and Executive Orders can be found at *https://www.epa.gov/laws-regulations/laws-and-executive-orders*.

A. Executive Order 12866: Regulatory Planning and Review and Executive Order 13563: Improving Regulation and Regulatory Review

This action is not a significant regulatory action and was, therefore, not submitted to OMB for review.

B. Paperwork Reduction Act (PRA)

The information collection activities in this proposed rule have been submitted for approval to OMB under the PRA. The Information Collection Request (ICR) documents that the EPA prepared have been assigned EPA ICR numbers 1072.14 for the NSPS KKa and 2256.07 for the NESHAP. You can find a copy of the ICRs in the docket for this rule, and they are briefly summarized here. The ICRs are specific to information collection associated with the Lead Acid Battery Manufacturing source category, through the new 40 CFR part 60, subpart KKa and amendments to 40 CFR part 63, subpart PPPPPP. We are proposing changes to the testing, recordkeeping and reporting requirements associated with 40 CFR part 63, subpart PPPPPP, in the form of requiring performance tests every 5 years and including the requirement for electronic submittal of reports. In addition, the number of facilities subject to the standards changed. The number of respondents was revised from 41 to 45 for the NESHAP based on our

review of operating permits and consultation with industry representatives and state/local agencies. We are proposing recordkeeping and reporting requirements associated with the new 40 CFR part 60, subpart KKa, including notifications of construction/reconstruction, initial startup, conduct of performance tests, and physical or operational changes; reports of opacity results, performance test results and semiannual reports if excess emissions occur or continuous emissions monitoring systems are used; and keeping records of performance test results and pressure drop monitoring.

Respondents/affected entities: The respondents to the recordkeeping and reporting requirements are owners or operators of lead acid battery manufacturing sources subject to 40 CFR part 60, subpart KKa and 40 CFR part 63, subpart PPPPPP.

Respondent's obligation to respond: Mandatory (40 CFR part 60, subpart KKa and 40 CFR part 63, subpart PPPPPP).

Estimated number of respondents: 45 facilities for 40 CFR part 63, subpart PPPPPP and 0 facilities for 40 CFR part 60, subpart KKa.

Frequency of response: The frequency of responses varies depending on the burden item. Responses include onetime review of rule amendments, reports of performance tests, and semiannual excess emissions and continuous monitoring system performance reports.

Total estimated burden: The annual recordkeeping and reporting burden for responding facilities to comply with all of the requirements in the new NSPS KKa and the NESHAP, averaged over the 3 years of this ICR, is estimated to be 2,580 hours (per year). The average annual burden to the Agency over the 3 years after the amendments are final is estimated to be 66 hours (per year). Burden is defined at 5 CFR 1320.3(b).

Total estimated cost: The annual recordkeeping and reporting cost for responding facilities to comply with all of the requirements in the NSPS KKa and the NESHAP, averaged over the 3 years of this ICR, is estimated to be $174,000 (rounded, per year). There are no

estimated capital and operation and maintenance costs. The total average annual Agency cost over the first 3 years after the amendments are final is estimated to be $3,380.

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for the EPA's regulations in 40 CFR are listed in 40 CFR part 9.

Submit your comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden to the EPA using the docket identified at the beginning of this rule. You may also send your ICR-related comments to OMB's Office of Information and Regulatory Affairs via email to *OIRA_submission@omb.eop.gov,* Attention: Desk Officer for the EPA. Since OMB is required to make a decision concerning the ICR between 30 and 60 days after receipt, OMB must receive comments no later than **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**. The EPA will respond to any ICR-related comments in the final rule.

C. Regulatory Flexibility Act (RFA)

I certify that this action will not have a significant economic impact on a substantial number of small entities under the RFA. The small entities subject to the requirements of this action are small businesses that own lead acid battery facilities. The Agency has determined that there are nine small businesses subject to the requirements of this action, and that eight of these small businesses are estimated to experience impacts of less than 1 percent of their revenues. The Agency estimates that one small business may experience an impact of approximately 1.3 percent of their annual revenues once every 5 years mainly due to the compliance testing requirements, with this one small business representing approximately 11 percent of the total number of affected small entities. The other four of the five years, we estimate the costs would be less than 1 percent of annual revenues for this one small business. Details of this analysis are presented in *Economic Impact and Small Business Analysis for the Lead Acid Battery*

Manufacturing NSPS Review and NESHAP Area Source Technology Review, which is available in the docket for this action.

D. Unfunded Mandates Reform Act (UMRA)

This action does not contain an unfunded mandate of $100 million or more as described in UMRA, 2 U.S.C. 1531–1538, and does not significantly or uniquely affect small governments. The action imposes no enforceable duty on any state, local, or tribal governments or the private sector.

E. Executive Order 13132: Federalism

This action does not have federalism implications. It will not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government.

F. Executive Order 13175: Consultation and Coordination with Indian Tribal Governments

This action does not have tribal implications as specified in Executive Order 13175. No tribal facilities are known to be engaged in the industries that would be affected by this action nor are there any adverse health or environmental effects from this action. Thus, Executive Order 13175 does not apply to this action.

G. Executive Order 13045: Protection of Children from Environmental Health Risks and Safety Risks Populations and Low-Income Populations

This action is not subject to Executive Order 13045 because it is not economically significant as defined in Executive Order 12866, and because the EPA does not believe the environmental health or safety risks addressed by this action present a disproportionate risk to children. This action's assessments of potential impacts to human health are contained in section IV.A of this preamble. The proposed work practices to minimize fugitive dust containing lead and the proposed new and revised emission limits described in section IV.B and IV.C will reduce actual and/or allowable lead emissions, thereby reducing potential exposure to children, including the unborn.

H. Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use

This action is not subject to Executive Order 13211 because it is not a significant regulatory action under Executive Order 12866.

I. National Technology Transfer and Advancement Act (NTTAA) and 1 CFR Part 51

This rulemaking involves technical standards. Therefore, the EPA conducted searches through the Enhanced NSSN Database managed by the American National Standards Institute (ANSI) to determine if there are voluntary consensus standards (VCS) that are relevant to this action. The Agency also contacted VCS organizations and accessed and searched their databases. Searches were conducted for the EPA Methods 9, 12, and 29 of 40 CFR part 60, appendix A. No applicable VCS were identified for EPA Methods 12 and 29 for lead.

During the search, if the title or abstract (if provided) of the VCS described technical sampling and analytical procedures that are similar to the EPA's reference method, the EPA considered it as a potential equivalent method. All potential standards were reviewed to determine the practicality of the VCS for this rule. This review requires significant method validation data which meets the requirements of the EPA Method 301 for accepting alternative methods or scientific, engineering and policy equivalence to procedures in the EPA reference methods. The EPA may reconsider determinations of impracticality when additional information is available for particular VCS.

One voluntary consensus standard was identified as acceptable alternative to EPA test methods for the purposes of this rule. The voluntary consensus standard ASTM D7520-16, "Standard Test Method for Determining the Opacity of a Plume in the Outdoor Ambient Atmosphere" is an acceptable alternative to EPA Method 9 with the following conditions:

1. During the digital camera opacity technique (DCOT) certification procedure outlined in section 9.2 of ASTM D7520-16, you or the DCOT vendor must present the plumes in front of

various backgrounds of color and contrast representing conditions anticipated during field use such as blue sky, trees, and mixed backgrounds (clouds and/or a sparse tree stand).

2. You must also have standard operating procedures in place including daily or other frequency quality checks to ensure the equipment is within manufacturing specifications as outlined in section 8.1 of ASTM D7520-16.

3. You must follow the record keeping procedures outlined in §63.10(b)(1) for the DCOT certification, compliance report, data sheets, and all raw unaltered JPEGs used for opacity and certification determination.

4. You or the DCOT vendor must have a minimum of four (4) independent technology users apply the software to determine the visible opacity of the 300 certification plumes. For each set of 25 plumes, the user may not exceed 15 percent opacity of anyone reading and the average error must not exceed 7.5 percent opacity.

5. This approval does not provide or imply a certification or validation of any vendor's hardware or software. The onus to maintain and verify the certification and/or training of the DCOT camera, software and operator in accordance with ASTM D7520-16 and this letter is on the facility, DCOT operator, and DCOT vendor.

The search identified one VCS that was potentially applicable for this rule in lieu of EPA reference methods. After reviewing the available standards, EPA determined that one candidate VCS (ASTM D4358-94 (1999)) identified for measuring emissions of pollutants or their surrogates subject to emission standards in the rule would not be practical due to lack of equivalency, documentation, validation data and other important technical and policy considerations. Additional information for the VCS search and determinations can be found in the memorandum, *Voluntary Consensus Standard Results for Review of Standards of Performance for Lead Acid Battery Manufacturing Plants and National Emission Standards for Hazardous Air Pollutants for Lead Acid Battery*, which is available in the docket for this action.

Under 40 CFR 63.7(f) and 40 CFR 68.3(f) of subpart A of the General Provisions, a source may apply to the EPA to use alternative test methods or alternative monitoring requirements in place of any required testing methods, performance specifications or procedures in the final rule or any amendments. The EPA welcomes comments on this aspect of the proposed rulemaking and, specifically, invites the public to identify potentially applicable VCS and to explain why such standards should be used in this regulation.

J. Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations

The EPA believes that this action does not have disproportionately high and adverse human health or environmental effects on minority populations, low-income populations, and/or indigenous peoples, as specified in Executive Order 12898 (59 FR 7629, February 16, 1994). The documentation for this decision is contained in section V.C and V.E of this preamble. As discussed in section V.E of this preamble, we performed a demographic analysis for the lead acid battery manufacturing source category, which is an assessment of the proximity of individual demographic groups living close to the facilities (within 50 km and within 5 km). Results of the demographic analysis indicate that the following groups above the national average: Hispanics, Ages 18-64, People living below the Poverty Level, 25 years old or greater without a High School Diploma, and People living in Linguistic Isolation. However, based on analyses of emissions and available ambient monitoring data (described in section IV.A of this preamble), we conclude ambient Pb concentrations near the facilities are all below the National Ambient Air Quality Standard (NAAQS) for Pb and therefore the sources are not likely to pose significant risks to human health.

Janet G. McCabe,

Deputy Administrator.

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